

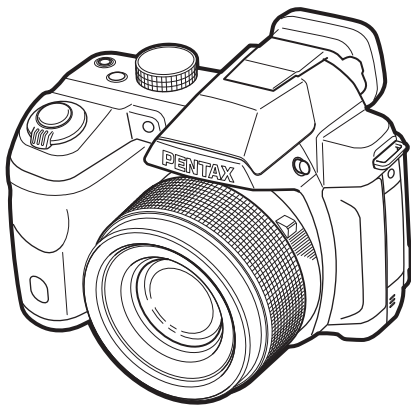
PENTAX

ENG

Digital Camera

K-5

Operating Manual



HDMITM
HIGH-DEFINITION MULTIMEDIA INTERFACE



To ensure the best performance from your camera, please read the Operating Manual before using the camera.

Thank you for purchasing this PENTAX Digital Camera. Please read this manual before using the camera in order to get the most out of all the features and functions. Keep this manual safe, as it can be a valuable tool in helping you to understand all the camera's capabilities.

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Regarding Product Registration

In order to better serve you, we request that you complete the product registration, which can be found on the CD-ROM supplied with the camera or the PENTAX website. Thank you for your cooperation.

Refer to “Connecting to a Computer” (p.183) for more information.

To users of this camera

- Do not use or store this device in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields.
Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the display, damage the stored data, or affect the product's internal circuitry and cause camera misoperation.
- The liquid crystal panel used for the display is manufactured using extremely high precision technology. Although the level of functioning pixels is 99.99% or better, you should be aware that 0.01% or fewer of the pixels may not illuminate or may illuminate when they should not. However, this has no effect on the recorded image.
- There is a possibility that the illustrations and the screen display in this manual are different from the actual ones.
- In this manual, SD Memory Cards, SDHC Memory Cards, and SDXC Memory Cards are referred to as SD Memory Cards.
- In this manual, the generic term “computer(s)” refers to either a Windows PC or a Macintosh.
- In this manual, the term “battery(ies)” refers to any type of batteries used for this camera and its accessories.

Using Your Camera Safely

We have paid close attention to the safety of this camera. When using this camera, we request your special attention regarding items marked with the following symbols.



Warning

This symbol indicates that ignoring this item could cause serious personal injuries.



Caution

This symbol indicates that ignoring this item could cause minor or medium personal injuries, or loss of property.

About the Camera

Warning

- Do not disassemble or modify the camera. High voltage areas are present inside the camera, with the risk of electric shock.
- If the camera interior is exposed due to dropping or otherwise damaging the camera, never touch the exposed portion. There is a risk of electric shock.
- Wrapping the strap around your neck is dangerous. Take care that small children do not hang the strap around their necks.
- If any irregularities occur during use, such as smoke or a strange odor, stop use immediately, remove the batteries, and contact your nearest PENTAX Service Center. Continuing to use the camera can cause a fire or electric shock.

Caution

- Do not place your finger over the flash when discharging the flash. You may burn yourself.
- Do not cover the flash with clothing when discharging the flash. Discoloration may occur.
- Some portions of the camera heat up during use. There is a risk of low temperature burns when holding such portions for long periods.
- Should the display be damaged, be careful of glass fragments. Also, be careful not to allow the liquid crystal to get on your skin, in your eyes or mouth.
- Depending on your individual factors or physical condition, the use of the camera may cause itching, rashes or blisters. In case of any abnormality, stop using the camera and get medical attention immediately.

About the AC Adapter

Warning

- Always use the AC adapter exclusively developed for this camera, with the specified power and voltage. Using an AC adapter not exclusive to this camera, or using the exclusive AC adapter with an unspecified power or voltage can cause a fire, electric shock, or camera breakdown. The specified voltage is 100 - 240V AC.

- Do not disassemble or modify the AC adapter. This can cause a fire or electric shock.
- If the generation of smoke or strange odor from the AC adapter or other abnormality occurs, immediately discontinue use and consult a PENTAX Service Center. Continuing to use the adapter can cause a fire or electric shock.
- If water should happen to get inside the AC adapter, consult a PENTAX Service Center. Continuing to use the adapter can cause a fire or electric shock.
- If you see a lightning flash or hear thunder during use of the AC adapter, unplug the power plug and discontinue use. Continuing to use the adapter can cause damage to the equipment, fire, or electric shock.
- Wipe off the plug of the AC adapter if it becomes covered with dust. Accumulated dust on the plug may cause a fire.



Caution

- Do not place or drop heavy objects on or forcefully bend the AC plug cord. Doing so may damage the cord. Should the cord be damaged, consult a PENTAX Service Center.
- Do not touch or short-circuit the terminal area of the AC plug cord while the cord is plugged in.
- Do not handle the power plug with wet hands. This can cause an electric shock.
- Do not drop the AC adapter, or subject it to violent impact. This can cause equipment breakdown.
- To reduce the risk of hazards, use only a CSA/UL certified power supply cord set, cord is Type SPT-2 or heavier, minimum NO.18 AWG copper, one end with a molded-on male attachment plug cap (with a specified NEMA configuration), and the other is provided with a molded-on female connector body (with a specified IEC non-industrial type configuration) or the equivalent.

About the Batteries



Warning

- Be sure to store the batteries out of the reach of small children. Placing the battery in their mouths may cause an electric shock.

- If any leakage from the batteries should come in contact with your eyes, do not rub them. Flush your eyes with clean water and get medical attention immediately.



Caution

- This camera uses four AA alkaline, AA lithium or AA Ni-MH batteries. Do not use batteries other than those specified here. Using other types of batteries may cause the camera to function poorly, or the batteries may explode or cause a fire.
- Do not charge any batteries other than rechargeable Ni-MH batteries. The batteries could explode or catch fire. AA batteries for use with this camera other than Ni-MH batteries cannot be charged.
- Do not disassemble the battery. Disassembling the battery may cause an explosion or leakage.
- When replacing the batteries, do not combine different brands, types or capacities. Also, do not combine old batteries with new ones. Inserting the batteries incorrectly may cause an explosion or fire.
- The batteries should be inserted correctly, observing (+) and (-) marks on the batteries. Inserting the batteries incorrectly may cause an explosion or fire.
- Remove the batteries from the camera immediately if they become hot or begin to smoke. Be careful not to burn yourself during removal.
- Do not short the batteries or dispose of the batteries in fire. This can cause an explosion or fire.
- If any leakage from the batteries should come in contact with skin or clothing, wash the affected areas thoroughly with water.

Keep the Camera and its Accessories out of the Reach of Small Children



Warning

- Do not place the camera and its accessories within the reach of small children.
 1. If the product falls or is operated accidentally, it may cause serious personal injuries.
 2. Wrapping the strap around a neck may cause suffocation.
 3. To avoid the risk of a small accessory such as batteries or SD Memory Cards from being swallowed by mistake, keep them out of the reach of

small children. Seek medical attention immediately if an accessory is accidentally swallowed.

Care to be Taken During Handling

Before Using Your Camera

- When traveling, take the Worldwide Service Network listing that is included in the package. This will be useful if you experience problems abroad.
- When the camera has not been used for a long time, confirm that it is still working properly, particularly prior to taking important pictures (such as at a wedding or when traveling). Contents of the recording cannot be guaranteed if recording, playback or transferring your data to a computer, etc. is not possible due to a malfunction of your camera or recording media (SD Memory Card), etc.
- The lens on this camera is not interchangeable. The lens is not removable.

Precautions on Carrying and Using Your Camera

- Do not subject the camera to high temperatures or high humidity. Do not leave the camera in a vehicle, as the temperature can get very high.
- Do not subject the camera to strong vibrations, shocks, or pressure. Use a cushion to protect the camera from vibrations of motorcycles, automobiles, or ships. If the camera is subjected to substantial vibrations, shocks or pressure, take your camera to your nearest PENTAX Service Center and have it checked.
- The temperature range for camera use is 0°C to 40°C (32°F to 104°F).
- The display may appear black at high temperatures, but will return to normal at normal temperatures.
- The display may respond more slowly at low temperatures. This is due to liquid crystal properties, and is not a malfunction.
- Sudden temperature changes will cause condensation on the inside and outside of the camera. Place the camera in your bag or a plastic bag, and remove it after the temperature of the camera and surroundings are equalized.
- Avoid contact with garbage, mud, sand, dust, water, toxic gases, or salt. These could cause the camera to breakdown. Wipe the camera to dry off any rain or water drops.
- Do not press the display with excessive force. This could cause it to break or malfunction.

- Be careful not to overtighten the tripod screw when using a tripod.

Cleaning Your Camera

- Do not clean the camera with organic solvents such as thinner, alcohol or benzene.
- Use a lens brush to remove dust accumulated on the lens. Never use a spray blower for cleaning as it may damage the lens.

Storing Your Camera

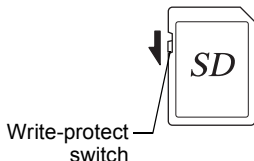
- Do not store the camera with preservatives or chemicals. Storage in high temperatures and high humidity can cause mold to grow on the camera. Remove the camera from its case and store it in a dry and well-ventilated location.
- Avoid using or storing the camera where it may be exposed to static electricity or electrical interference.
- Avoid using or storing the camera in direct sunlight or where it may be exposed to rapid changes in temperature or to condensation.
- Periodic inspections are recommended every one to two years to maintain high performance.

Other Precautions

- The SD Memory Card is equipped with a write-protect switch. Setting the switch to LOCK prevents new data from being recorded on the card, the stored data from being deleted, and the card from being formatted by the camera or computer.

 appears on the display when the card is write-protected.

- Care should be taken when removing the SD Memory Card immediately after using the camera, as the card may be hot.
- Keep the battery/card cover closed and do not remove the SD Memory Card or turn the camera off while the data is being played back or saved to the card, or the camera is connected to a computer with the USB cable, as this may cause the data to be lost or the card to be damaged.
- Do not bend the SD Memory Card or subject it to violent impact. Keep it away from water and store away from high temperature.



- Do not remove the SD Memory Card during formatting as this may damage the card and render it unusable.
- The data on the SD Memory Card may be lost in the following circumstances. We do not accept any liability for data that is deleted
 - (1) when the SD Memory Card is mishandled by the user.
 - (2) when the SD Memory Card is exposed to static electricity or electrical interference.
 - (3) when the SD Memory Card has not been used for a long time.
 - (4) when the SD Memory Card is ejected or the batteries are removed while the card is being accessed.
- If it is not used for a long time, the data on the card may become unreadable. Be sure to regularly make a backup of important data on a computer.
- Be sure to format SD Memory Cards that are unused or have been used on another camera. Refer to “Formatting the Memory” (p.162).
- Please note that deleting data, or formatting the SD Memory Cards or the built-in memory does not completely erase the original data. Deleted files can sometimes be recovered using commercially available software. It is user’s responsibility to ensure the privacy of such data.

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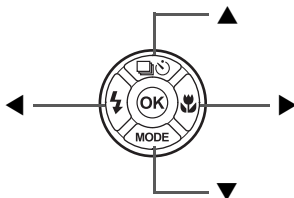
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In this manual, the method for operating the four-way controller is shown in illustrations, such as in the ones below.



The meanings of the symbols used in this Operating Manual are explained below.

	indicates the reference page number for an explanation of the related operation.
	indicates information that is useful to know.
	indicates precautions to be taken when operating the camera.
 mode	This is the mode for capturing still pictures and recording movies. In this manual, the mode for taking still pictures is referred to as the “still picture capture mode” and the mode for recording movies is referred to as the “movie mode”.
 mode	This is the mode for viewing still pictures and playing back movies.

Composition of the Operating Manual

This Operating Manual contains the following chapters.

1 Getting Started

This chapter explains what you need to do after purchasing the camera before you start taking pictures. Be sure to read this chapter and follow the instructions.

2 Common Operations

This chapter explains common operations such as the functions of the buttons and how to use the menus. For more details, refer to the respective chapters below.

3 Taking Pictures

This chapter explains the various ways of capturing images and how to set the relevant functions.

4 Playing Back and Deleting Images

This chapter explains how to view still pictures and movies on the camera or on a TV screen and how to delete them from the camera.

5 Editing and Printing Images

This chapter explains how to edit still pictures on the camera and how to print them.

6 Settings

This chapter explains how to set the camera-related functions.

7 Connecting to a Computer

This chapter explains how to connect the camera to a computer, and includes installation instructions and a general overview of the provided software.

8 Appendix

This chapter explains troubleshooting and provides various resources.

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Camera Features

In addition to basic picture-taking, this camera has a variety of shooting modes to suit different situations. This section describes how to make the most of the key features of your camera. For details of camera operations, refer to the pages for each function.

Easy-to-Navigate Capture and Playback Functions!

The user-friendly design of this camera enables easy operation with only a few buttons. Simply by choosing the appropriate icon, you can select the shooting mode (p.68) and choose the optimal settings for the situation, or the playback mode (p.122, p.137) and enjoy the various playback and editing functions. A guide on the display lets you check the functions available in each mode and how to use them.



- **A shooting mode guide is displayed in the Capture Mode Palette and a playback mode guide in the Playback Mode Palette (p.68, p.122).**
- **Use the Green Mode to take pictures easily using standard settings (p.62).**

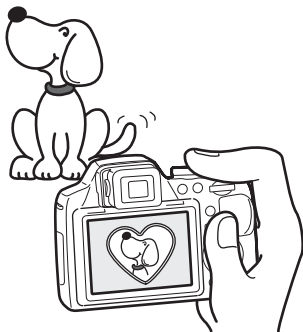
Perfect for Portrait Shots!

This camera comes with a “Face Detection” function that spots the faces in your shot and automatically adjusts the focus and exposure for the faces. It can detect up to 32 people per shot*, so it will help you take perfect group shots too. It will automatically release the shutter when one or more of the subjects are smiling, or it will tell you that anyone blinked, so you can take many shots from which you can choose the best.

* Up to 31 face detection frames are displayed on the display.

- **Face Detection function (p.61)**
- **Modes for taking stunning pictures of people (p.68)**

Add Fun Frames to Your Pictures!



When you take a picture with this camera, you can choose from the original fun frames to create attractive framed shots (p.72). You can also add frames to pictures you have taken. Adjust the position of the subject in the picture or reduce or enlarge the picture size to match the frame shape and size. Now you no longer have to worry about the subject not fitting into the frame (p.150).

- **For decorating your pictures with a frame**

Display Your Data in Calendar Format!

With this camera, you can display recorded images and movies by date in calendar format (p.121). This lets you quickly find the image or movie you want to play back.

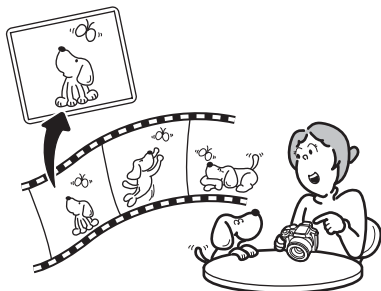
Advanced Movie Recording Functions

This camera has a “Movie SR” function to reduce camera shake during movie recording (p.114). You can record movies in 1920 × 1080 pixel (16:9) Full HD format (p.114) and can enjoy viewing high-quality movies on AV devices by connecting the camera using a commercially available HDMI cable (p.134).

- **Use the camera to shoot fun-filled movies of your children or pets as a visual diary of their development (p.108).**

A Multitude of Functions Inside the Camera for Enjoying Images Without a Computer!

This camera has a variety of functions to let you enjoy playing back and editing images without having to connect the camera to your computer. The camera is all you need to take and edit still pictures and movies (p.137).

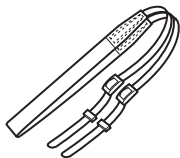


- **Image processing features such as Resize (p.137), Cropping (p.138), Digital Filter (p.142) and Red-eye Edit (p.149) can be used.**
- **You can divide a movie into two or more segments and select a frame from a movie to save it as a still picture (p.153).**

Checking the Contents of the Package



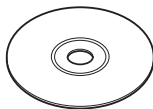
Camera
X-5



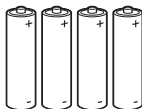
Strap
O-ST92 (*)



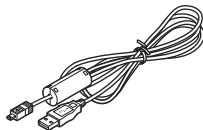
Lens cap O-LC129 (*)



Software (CD-ROM)
S-SW129



Four AA alkaline
batteries



USB cable
I-USB7 (*)



Operating Manual
(this manual)

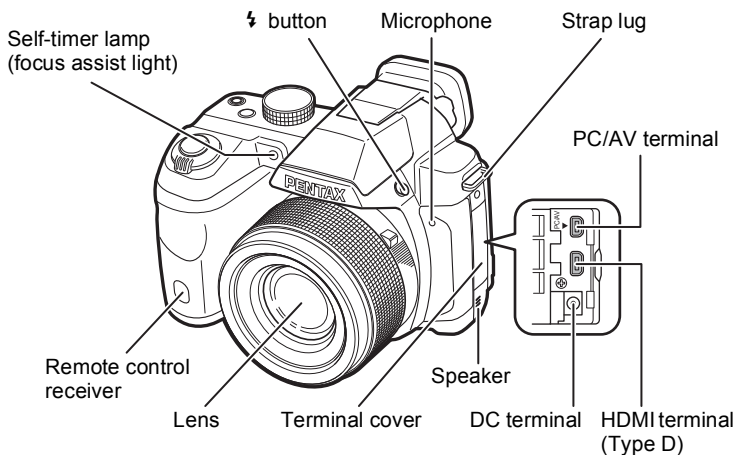


Quick Guide

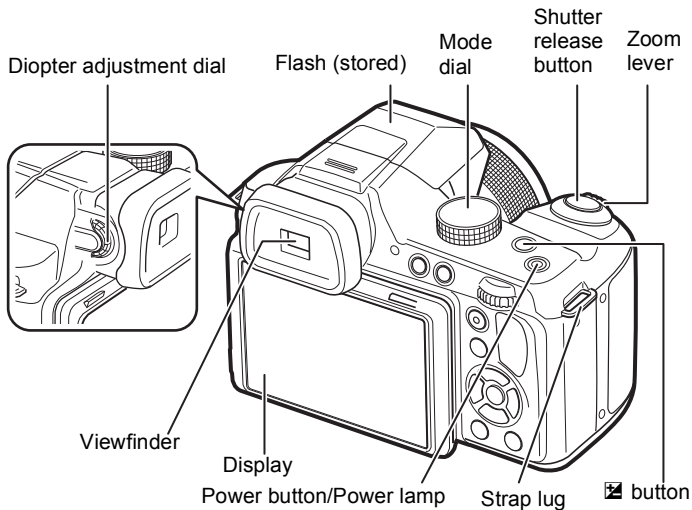
Items marked with an asterisk (*) are also available as optional accessories.

Names of Parts

Front

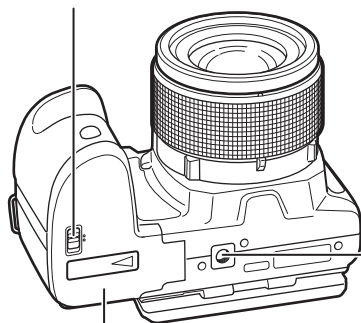


Back



Bottom

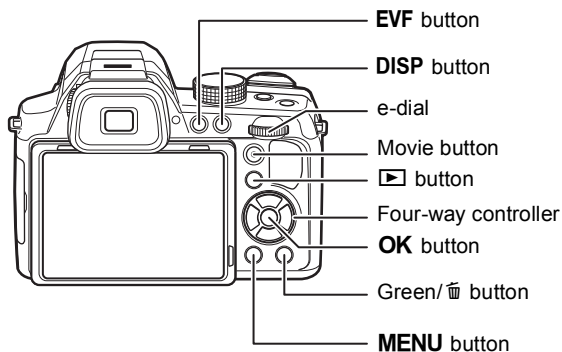
Battery/card cover lock lever



Tripod socket

Battery/card cover

Names of Operating Parts



EVF button

DISP button

e-dial

Movie button

▶ button

Four-way controller

OK button

Green/ button

MENU button

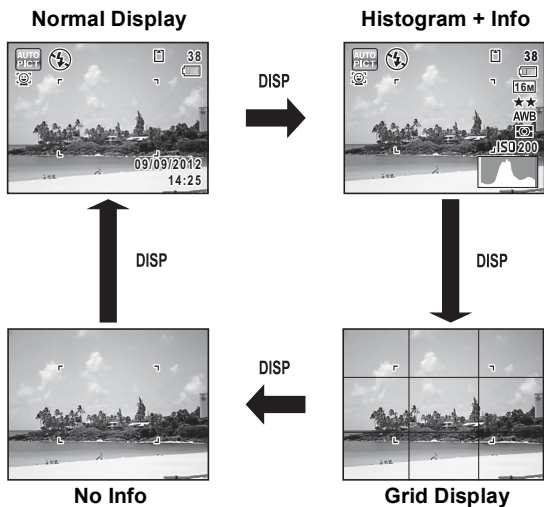


Refer to “Understanding the Button Functions” (p.44 - p.48) for an explanation of the function of each button.

Monitor Indications

Display in Mode

The display shows information such as the shooting conditions in capture mode. The display changes in the following sequence each time you press the **DISP** button: “Normal Display”, “Histogram + Info”, “Grid Display” and “No Info”.

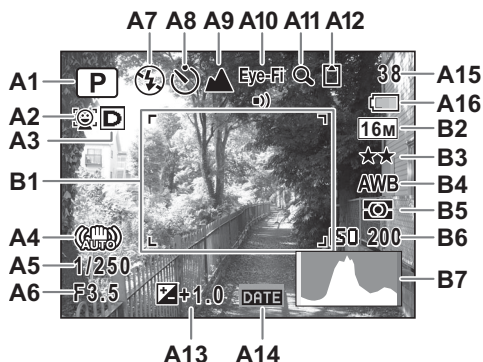


- When the shooting mode is set to  (Green) mode, the monitor display is as shown on the right. You cannot change the information on the display by pressing the **DISP** button.
- To take pictures using the viewfinder, switch from the monitor display to the viewfinder by pressing the **EVF** button. Press the button again to switch to the monitor display.



Still Picture Capture Mode

(All of the display items are displayed here for explanatory purposes.)
A1 to A16 and B1 appear when “Normal Display” is selected. All the icons appear when “Histogram + Info” is selected. Only B1 appears when “No Info” is selected.



- | | |
|--|---|
| A1 Shooting mode (p.68) | A12 Memory status (p.37) |
| A2 Face Detection icon (p.61) | A13 EV Compensation (p.66) |
| A3 D-Range Setting icon (p.98) | A14 Date Imprint setting (p.103) |
| A4 Shake Reduction icon (p.99) | A15 Remaining image storage capacity |
| A5 Shutter Speed | A16 Battery level indicator (p.32) |
| A6 Aperture | B1 Focus frame (p.58) |
| A7 Flash Mode (p.82) | B2 Recorded Pixels (p.91) |
| A8 Drive Mode (p.84) | B3 Quality Level (p.92) |
| A9 Focus Mode (p.86) | B4 White Balance (p.93) |
| A10 Eye-Fi communication status (p.175) | B5 AE Metering (p.95) |
| A11 Digital Zoom/Intelligent Zoom icon (p.64) | B6 Sensitivity (p.96) |
| | B7 Histogram (p.27) |

* A2 varies depending on the [Face Detection] setting in the [Rec. Mode] menu.

	When [Face Detection] is set to [On]
	When [Face Detection] is set to [Smile]

If set to [Off], nothing appears in A2.

- * A3 varies depending on the [D-Range Setting] setting in the [Rec. Mode] menu.

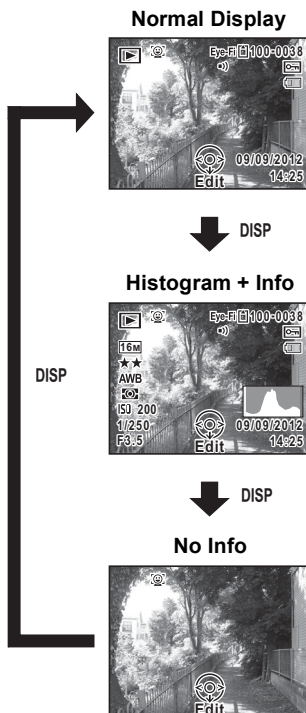
	When [Highlight Correction] is set to ☒ (On)
	When [Shadow Correction] is set to ☒ (On)
	When [Highlight Correction] and [Shadow Correction] are both set to ☒ (On)

If [Highlight Correction] and [Shadow Correction] are both set to ☐ (Off), nothing appears in A3.

- * For A4,  appears if the shutter release button is pressed halfway when [Shake Reduction] in the [Rec. Mode] menu is set to [Sensor Shift] or [Dual].  appears when [Shake Reduction] is set to [Off].
- * A5 and A6 always appear when the shooting mode is set to **M** or **USER** (when the registered shooting mode is **M**). In other shooting modes, they are displayed only when the shutter release button is pressed halfway.
- * A10 varies depending on the communication status when using SD Memory Card with a built-in wireless LAN (Eye-Fi card).
 (No indicator) Eye-Fi card is not supported
Eye-Fi  Communicating
Eye-Fi ●-- Waiting for communication
Eye-Fi  Eye-Fi communication is not allowed
Eye-Fi  Version is outdated
- * When the shooting mode is  (Auto Picture) and if you press the shutter release button halfway, the automatically selected shooting mode appears in A1 even when “Grid Display” or “No Info” is selected (p.59).
- * The current date and time (p.22) appear instead of B7 when “Normal Display” is selected.
- * In “Normal Display”,  appears during world time setting instead of B7.
- * Some indications may not appear depending on the shooting mode.

Display in Mode

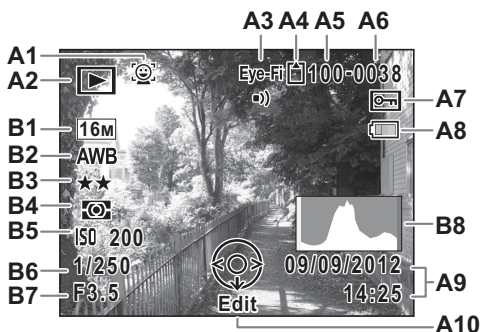
The display shows the shooting information of the image in playback mode. The display changes in the following sequence each time you press the **DISP** button.



Playback Mode

(All of the display items are displayed here for explanatory purposes.)

The display shows information such as the shooting conditions. A1 to A10 appear when “Normal Display” or “Histogram + Info” is selected. B1 to B8 appear only when “Histogram + Info” is selected.



- | | |
|--|--|
| A1 Face Detection icon (p.61) | A8 Battery level indicator (p.32) |
| A2 Playback mode | A9 Captured date and time (p.41) |
| : Still Picture (p.118)
: Time-Lapse Movie (p.112)
: Movie (p.119)
: High Speed Movie (p.113) | A10 Four-way controller guide |
| A3 Eye-Fi communication status (p.175) | B1 Recorded Pixels (p.91) |
| A4 Memory status (p.37) | B2 White Balance (p.93) |
| A5 Folder number (p.169) | B3 Quality Level (p.92) |
| A6 File number | B4 AE Metering (p.95) |
| A7 Protect icon (p.131) | B5 Sensitivity (p.96) |
| | B6 Shutter speed |
| | B7 Aperture |
| | B8 Histogram (p.27) |

- * A1 appears only if the Face Detection function worked when the image was shot.
- * In “Normal Display”, A8 and A9 disappear if no operation is performed for two seconds.
- * A10 appears even when “No Info” is selected, but disappears if no operation is performed for two seconds. When no operation is performed for two seconds in “Normal Display” or “Histogram + Info”, only “Edit” disappears.

Guide Indications

A guide indication for each available button/key operation appears as follows on the display during operation.

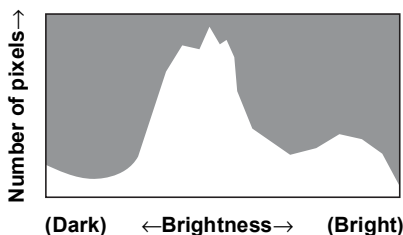
▲	Four-way controller (▲)
▼	Four-way controller (▼)
◀	Four-way controller (◀)
▶	Four-way controller (▶)
MENU	MENU button

	e-dial
OK	OK button
SHUTTER	Shutter release button
	Green/Trash button
DISP	DISP button

Using the Histogram

A histogram shows the brightness distribution of an image. The horizontal axis represents brightness (dark at the left and bright at the right) and the vertical axis represents the number of pixels.

The shape of the histogram before and after shooting tells you whether the brightness and contrast are correct or not, and lets you decide if you need to adjust the exposure and take a picture again.

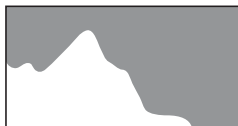


Adjusting the Exposure p.66

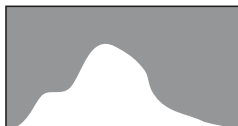
Understanding Brightness

If the brightness is correct, the graph peaks in the middle. If the image is underexposed, the peak is on the left side, and if it is overexposed, the peak is on the right side.

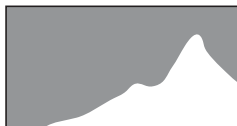
Dark image



Correct image



Bright image



When the image is underexposed, the part to the left is cut off (dark portions) and when the image is overexposed, the part to the right is cut off (bright portions).

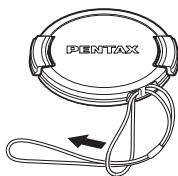
Understanding Contrast

The graph peaks gradually for images in which contrast is balanced. The graph peaks on both sides but sinks in the middle for images with a large difference in contrast and low amounts of mid-level brightness.

Attaching the Lens Cap and Strap

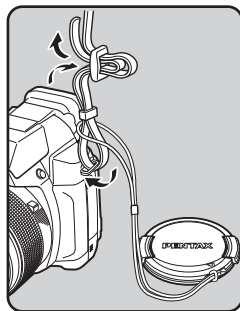
Attach the lens cap and strap supplied with the camera.

- 1 Attach the string provided to the lens cap.**

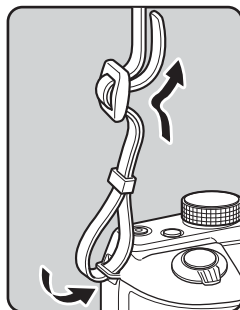


- 2 Pass the end of the strap through the strap lug, then secure it on the inside of the clasp.**

As shown in the illustration, passing the strap through the lens cap's string prevents the lens cap from being lost.

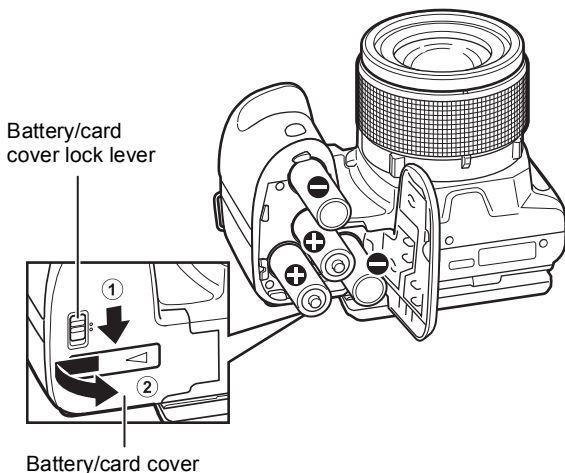


- 3 Attach the other end of the strap in the same manner as described above.**



Installing the Batteries

Install the batteries into the camera. Use four AA alkaline, AA lithium or AA Ni-MH batteries.



1 Open the battery/card cover.

- 1 Slide the battery/card cover lock lever in the direction of the arrow to unlock.
- 2 Slide the battery/card cover in the direction of the arrow to open the cover.

2 Insert the batteries according to the (+)/(-) indicators in the battery compartment.



Make sure to check the direction of the batteries. If the batteries are incorrectly oriented, the power of the camera is not turned on, and malfunction may result.

Close the battery/card cover.

While steadying the whole battery/card cover with your hands, press to slide it in the opposite direction of ② until it clicks.

Close the battery/card cover, and slide the battery/card cover lock lever in the opposite direction of ① to lock.

To remove the batteries, open the battery/card cover in the same manner in Step 1 of “Installing the Batteries” (p.30) then remove the batteries.



- AA alkaline and AA lithium batteries are not rechargeable.
- Do not open the battery/card cover or remove the batteries while the camera is turned on.
- If you do not intend to use the camera for a long time, remove the batteries. If the batteries are left in the camera for a long time, they may leak.
- If the batteries have been removed from the camera for a long time, when they are reinserted and the camera is turned on, the message [Battery depleted] may appear. This can also happen when using the camera for the first time; however this is not a malfunction. Turn the camera off, wait a minute and then turn the camera on again. The date and time may be reset by this operation.
- Insert the batteries correctly. If the batteries are incorrectly oriented, malfunction may result. Wipe the end of the batteries before inserting into the camera.
- Be careful as the camera or the batteries may become hot when the camera is used continuously for a long period of time.



Use the AC adapter kit K-AC129 (optional) if you intend to use the camera for a long time (p.32).

Recordable Image No., Movie Recording Time, and Playback Time (When using new AA alkaline batteries at 23°C with the display on)

Recordable Image No.* ¹ (flash used for 50% of the shots)	Movie Recording Time* ²	Playback Time* ²
Approx. 330 pictures	Approx. 75 min.	Approx. 420 min.

*1 Recording capacity shows approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade). Actual performance may vary according to operating conditions.

*2 According to the result of in-house testing. Actual performance may vary according to operating conditions.



- In general, battery performance may temporarily deteriorate as the temperature decreases. Be sure to take spare batteries when using the camera in a cold region and keep the batteries warm by placing them in your pocket or inside your coat. Battery performance that has deteriorated due to cold temperature will return to normal performance at normal temperatures.
- Due to their attributes, AA alkaline batteries may not allow the camera to make full use of its capabilities when used at cold temperatures. Use of AA lithium or AA Ni-MH batteries is recommended when the camera is used at cold temperatures.
- Be sure to take spare batteries with you when traveling abroad or to a cold region, or if you intend to take a lot of pictures.

Battery Level Indicator

You can check the battery level by the indicator on the display.

Screen Display	Battery Status
(green)	Adequate power remains.
(green)	Batteries are running low.
(yellow)	Batteries are running very low.
(red)	Batteries are exhausted.
[Battery depleted]	The camera will turn off after this message appears.

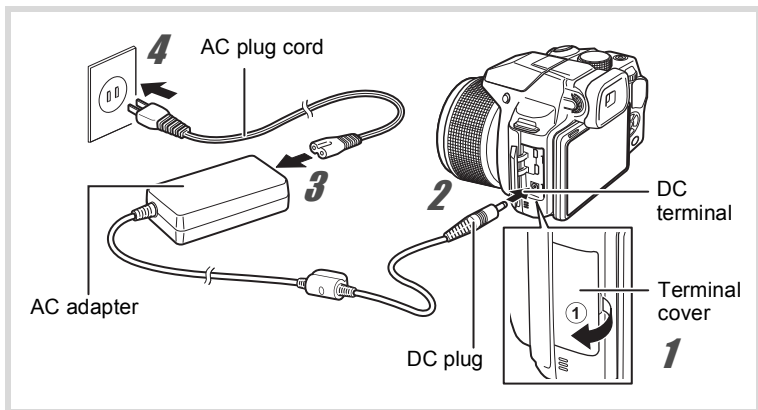


AA nickel manganese batteries may not display the battery level correctly due to their attributes. may be displayed for the battery level even if the batteries are running low. The camera may also turn off without warning even if is displayed.

Using the AC Adapter

Use of the AC adapter kit K-AC129* (optional) with a household power supply is recommended if you intend to use the camera for a long time or connect it to a computer.

* The AC adapter kit K-AC129 is a set of the AC adapter D-AC115 and the AC plug cord.



1 Make sure that the camera is turned off and open the terminal cover.

Pull out the terminal cover in the direction of the arrow ①.

2 Connect the DC plug of the AC adapter to the DC terminal of the camera.

3 Connect the AC plug cord to the AC adapter.

4 Plug the AC plug cord into the power outlet.



- Make sure that the camera is turned off before connecting or disconnecting the AC adapter.
- Make sure that the DC plug is connected securely. The data may be lost if either becomes disconnected while data is being recorded on the SD Memory Card or the built-in memory.
- Use the AC adapter with due care to avoid fire or electric shock. Be sure to read "Using Your Camera Safely" (p.1) and "About the AC Adapter" (p.2) before using the AC adapter.
- Be sure to read the operation manual accompanying the AC adapter kit K-AC129 before using the adapter.

Installing an SD Memory Card

1

Getting Started

This camera uses a commercially available SD Memory Card, SDHC Memory Card, or SDXC Memory Card. Captured images are saved on the SD Memory Card when a card is inserted in the camera. They are saved in the built-in memory when a card is not inserted (p.37).

Caution

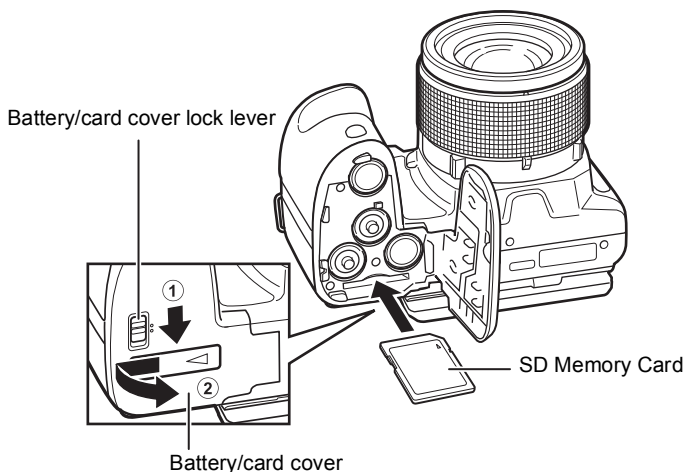
- **Be sure to use this camera to format (initialize) an SD Memory Card that is unused or has been used on other cameras or digital devices. Refer to “Formatting the Memory” (p.162) for instructions on formatting.**
- **When using a new Eye-Fi card for the first time, copy the installation file of Eye-Fi Manager on the card to your computer before formatting the card.**
- **Make sure that the camera is turned off before inserting or removing the SD Memory Card.**



- The number of still pictures that can be stored and movie recording time vary depending on the capacity of the SD Memory Card, the selected number of recorded pixels, and the quality level, as well as the frame rate (for movies).
 - Choose the appropriate number of recorded pixels for still pictures in the [📷 Rec. Mode] menu. Refer to “Selecting the Number of Recorded Pixels” (p.91) for details.
 - Choose the appropriate number of recorded pixels and frame rate for movies in the [🎬 Movie] menu. Refer to “Selecting the Number of Recorded Pixels and Frame Rate for Movies” (p.114) for details.
 - For an approximate guide to the number of still pictures or the length of recorded movies that can be saved on an SD Memory Card or in the built-in memory, see “Main Specifications” (p.211).
- The power lamp blinks while the SD Memory Card is being accessed (data is being recorded or read).

Backing Up Data

The camera may not be able to access data in the SD Memory Card or built-in memory in the case of a malfunction. Use a computer or other device to back up important data in another location.



1 Make sure that the camera is turned off and open the battery/card cover.

- ① Slide the battery/card cover lock lever in the direction of the arrow to unlock.
- ② Slide the battery/card cover in the direction of the arrow to open the cover.

2 Insert the SD Memory Card into the SD Memory Card socket so that the label is facing the lens side of the camera.

Push the card in until it clicks. Data may not be recorded correctly if the card is not inserted all the way.

To remove the SD Memory Card, push it in once and then pull it out.

3 Close the battery/card cover.

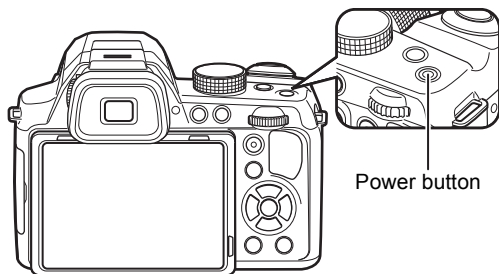
While steadying the whole battery/card cover with your hands, press to slide it in the opposite direction of ② until it clicks.

Close the battery/card cover, and slide the battery/card cover lock lever in the opposite direction of ① to lock.

Turning the Camera On and Off

1

Getting Started



1 Remove the lens cap.

2 Press the power button.

The camera turns on and the display turns on.

When you turn the camera on, the lens extends. (The lens will not extend if the initial settings have not been configured.)

If the [Language/言語] screen or [Date Adjustment] screen appears when you turn the camera on, follow the procedure on p.38 to set the display language and/or current date and time.

3 Press the power button again.

The display turns off, the lens closes, and the camera turns off.

Taking Still Pictures  p.56

Checking the SD Memory Card

The SD Memory Card is checked when the camera turns on and the memory status is displayed.

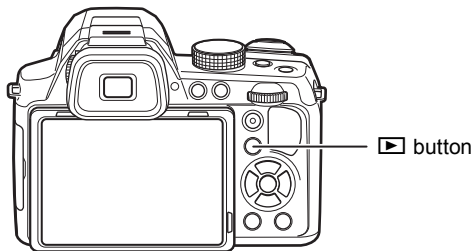
	The SD Memory Card is inserted. Images will be saved on the SD Memory Card.
	The SD Memory Card is not inserted. Images will be saved in the built-in memory.
	The write-protect switch on the SD Memory Card is in the LOCK position (p.6). Images cannot be recorded.

Memory status



Starting-up in Playback Mode

If you want to play back images straightaway without taking any pictures, you can start up the camera in playback mode.



1 Hold down the button.

The display turns on with the lens retracted, and the camera turns on in playback mode.



- To switch from the playback mode to the  mode, be sure to remove the lens cap, and press the  button or press the shutter release button halfway.
- In order to set the starting-up in playback mode to off, set [Playback Shortcut] to  (Off) in the [ Setting] menu (p.181).

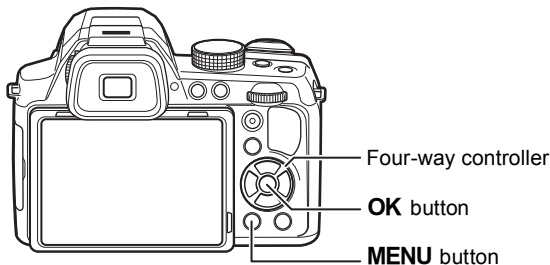
Initial Settings

The [Language/言語] screen appears when the camera is turned on for the first time (p.36). Perform the operations in “Setting the Display Language” below to set the language, and in “Setting the Date and Time” (p.41) to set the current date and time.

The language, date, and time can be changed later. Refer to the pages below for instructions.

- To change the language, follow the steps in “Changing the Display Language” (p.169).
- To change the date and time, follow the steps in “Changing the Date and Time” (p.164).

Setting the Display Language

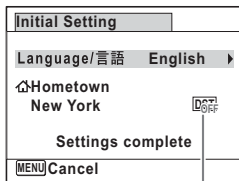


1 Use the four-way controller (▲▼◀▶) to choose the desired display language.

2 Press the OK button.

The [Initial Setting] screen appears in the selected language. If the desired settings for [Hometown] and [DST] (Daylight Saving Time) appear, proceed to Step 9.

Proceed to Step 3 if the desired settings do not appear.



Daylight saving time

If you accidentally select the wrong language and proceed to the next procedure, perform the following operation to set the desired language.

● **When the Wrong Language Has Been Inadvertently Selected**

- 1 Press the four-way controller (▶).**
- 2 Use the four-way controller (▲ ▼ ◀ ▶) to select the desired language and press the OK button.**

The [Initial Setting] screen appears in the selected language.

● **When the Screen After Step 2 Appears in the Wrong Language**

- 1 Press the MENU button.**
The setting screen is canceled and the camera is set to still picture capture mode.
- 2 Press the MENU button.**
The [📷 Rec. Mode] menu appears.
- 3 Press the four-way controller (▶) twice.**
The [⚙ Setting] menu appears.
- 4 Use the four-way controller (▲ ▼) to select [Language/言語].**
- 5 Press the four-way controller (▶).**
The [Language/言語] screen appears.
- 6 Use the four-way controller (▲ ▼ ◀ ▶) to select the desired language.**
- 7 Press the OK button.**
The [⚙ Setting] menu appears in the selected language.

To reset the Hometown city, date, and time, refer to the pages below for instructions.

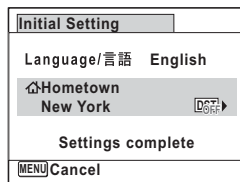
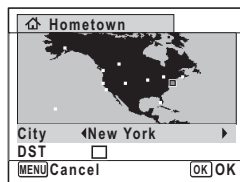
- To change the Hometown city, follow the steps in “Setting the World Time” (p.166).
- To change the date and time, follow the steps in “Changing the Date and Time” (p.164).

3 Press the four-way controller (▼).

The frame moves to [Hometown].

4 Press the four-way controller (▶).

The [Hometown] screen appears.

**5 Use the four-way controller (◀▶) to choose a city.****6 Press the four-way controller (▼).**

The frame moves to [DST] (Daylight Saving Time).

7 Use the four-way controller (◀▶) to select ☒ (On) or ☐ (Off).**8 Press the OK button.**

The [Initial Setting] screen reappears.

9 Press the four-way controller (▼) to select [Settings complete].**10 Press the OK button.**

The [Date Adjustment] screen appears. Next, set the date and time.

The video output format (NTSC/PAL) is set to the format of the city selected in [Hometown] on the [Initial Setting] screen. Refer to "List of World Time Cities" (p.210) for the video output format of each city that will be set at the time of initial setting, and "Changing the Video Output Format" (p.173) for changing the video output format.

Setting the Date and Time

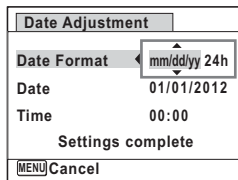
Set the current date and time and the display style.

1 Press the four-way controller (►).

The frame moves to [mm/dd/yy].

2 Use the four-way controller (▲▼) to choose the date format.

Choose from [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].



3 Press the four-way controller (►).

The frame moves to [24h].

4 Use the four-way controller (▲▼) to select [24h] (24-hour display) or [12h] (12-hour display).

5 Press the four-way controller (►).

The frame returns to [Date Format].

6 Press the four-way controller (▼).

The frame moves to [Date].

7 Press the four-way controller (►).

The frame moves to the month.

8 Use the four-way controller (▲▼) to change the month.

Change the day and year in the same manner.

Next, change the time.

If you selected [12h] in Step 4, the camera automatically switches the display between am and pm corresponding to the time.

9 Press the four-way controller (►), and then use the four-way controller (▼) to select [Settings complete].

10 Press the OK button.

This confirms the date and time.



If you press the **OK** button in Step 10, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

1



When the [Initial Setting] or [Date Adjustment] screen is displayed, you can cancel the settings made up to that point and switch to the capture mode by pressing the **MENU** button. In this case, the [Initial Setting] screen will appear again the next time you turn the camera on.

The language, date, time, Hometown city, and DST setting can be changed. Refer to the pages below for instructions.

- To change the language, follow the steps in “Changing the Display Language” (p.169).
- To change the date and time, follow the steps in “Changing the Date and Time” (p.164).
- To change the Hometown city or DST setting, follow the steps in “Setting the World Time” (p.166).

Adjusting the Viewfinder Diopter

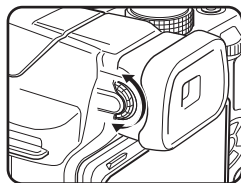
Adjust the viewfinder diopter to suit your eyesight.

If it is difficult to see the image in the viewfinder clearly, turn the diopter adjustment dial up or down.

1 Press the EVF button and switch to the viewfinder.

2 Look through the viewfinder and turn the diopter adjustment dial up or down.

Adjust the dial until the image in the viewfinder appears clearly focused.
Point the camera at a white wall or other bright and even surface.

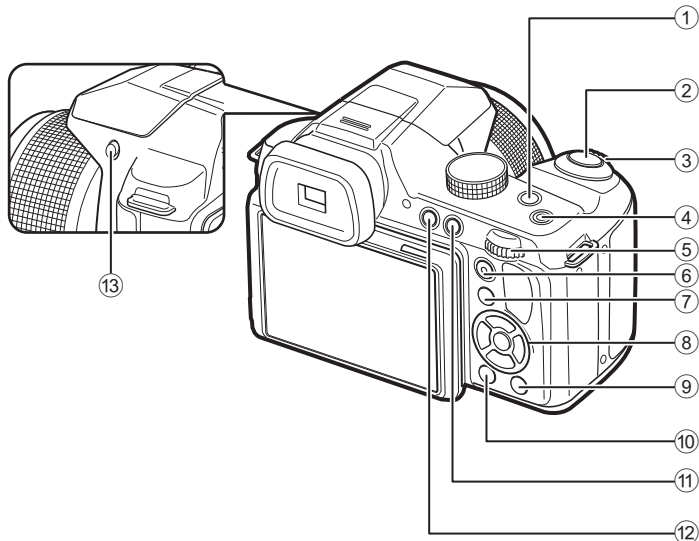


Understanding the Button Functions

Mode

2

Common Operations



button

Press this button to set the EV compensation value (p.66).

In **M** mode, this button is used for switching the shutter speed and the aperture value (p.79).

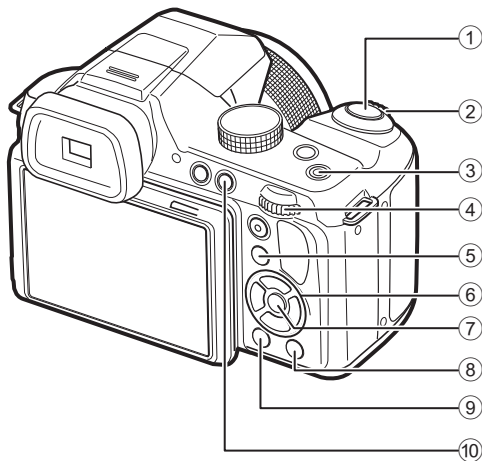
Shutter release button

Focuses the camera on the subject when pressed halfway in still picture capture mode (except when  (Infinity) or **MF** is selected as the focus mode). Takes a still picture when pressed down fully (p.59). Starts and stops movie recording in movie mode (p.110).

Zoom lever

Changes the captured area (p.64).

- ④ **Power button**
Turns the camera on and off (p.36).
- ⑤ **e-dial**
Changes the EV compensation value, shutter speed, and aperture value.
- ⑥ **Movie button**
Starts movie recording when the mode dial is set to a position other than  (p.111).
- ⑦ ** button**
Switches to the  mode (p.48).
- ⑧ **Four-way controller**
 - ▲ Changes the drive mode (p.84).
 - ▼ Displays the Capture Mode Palette when the mode dial is set to **SCN** (p.69).
Displays the Movie Mode Palette when the mode dial is set to  (p.109).
 - ◀ Changes the flash mode (p.82).
 - ▶ Changes the focus mode (p.86).
 - ▲ ▼ Adjusts the focus when the focus mode is set to **MF** (p.87).
- ⑨ **Green button**
Switches to the  (Green) mode (p.62).
Calls up the assigned function when set to [Fn Setting] (p.105).
- ⑩ **MENU button**
Displays the [ Rec. Mode] menu in still picture capture mode (p.49).
Displays the [ Movie] menu in movie mode (p.49).
- ⑪ **DISP button**
Changes the information on the display (p.22).
- ⑫ **EVF button**
Switches between the viewfinder and the monitor display.
- ⑬ ** (Flash) button**
The flash pops up.



① **Shutter release button**

Switches to mode (p.48).

② **Zoom lever**

Each time the lever is turned to the right (**T**) during single-image display, the image is enlarged by 1.1 to 10 times. Returns to the previous display when turned to the left (**W**) (p.64).

③ **Power button**

Turns the camera on and off (p.36).

④ **e-dial**

- Enlarges the image by 1.1 to 10 times when turned to the right () during single-image display. Returns to the previous display when turned to the left () (p.127).
- Changes to four-image display when turned to the left () during single-image display. Changes to nine-image display when turned to the left again. Returns to the previous display when turned to the right () (p.120).

- Changes to folder or calendar display when turned to the left (⏮) during nine-image display (p.121).
 - Returns to nine-image display when turned to the right (⏭) during folder/calendar display (p.121).
- Adjusts the volume during playback of movies (p.119).

5 **button**

Switches to  mode (p.48).

6 **Four-way controller**

- ▲ Plays back and pauses a movie (p.119).
- ▼ Displays the Playback Mode Palette (p.122).
Stops a movie during playback (p.120).
- ◀▶ Displays the previous or next image during single-image display (p.118).
Fast-forwards, fast-reverses, frame forwards and frame reverses during playback (p.119).
- ▲▼◀▶ Selects an image during four-/nine-image display, a folder during folder display, and a date during calendar display (p.121).
Moves the display area during zoom display (p.127).
Moves the image when using the Frame Composite function (p.150).

7 **OK button**

Returns to single-image display during four-/nine-image display or zoom display (p.120, p.127).
Changes to nine-image display of the selected folder during folder display (p.121).
Changes to single-image display of the selected date during calendar display (p.121).

8 **Green/ (Delete) button**

- Switches from single-image display to the Delete screen (p.129).
- Switches from four-/nine-image display to the Select & Delete screen (p.129).
- Switches from folder display to the calendar display screen (p.121).
- Switches from calendar display to the folder display screen (p.121).

9 **MENU button**

- Displays the [ Setting] menu during single-image display (p.49).
Returns to single-image display during Playback Mode Palette display.

- Returns to single-image display during four-/nine-image display or zoom display.
- Switches from folder/calendar display to nine-image display with the cursor placed on the most recent image.

⑩

DISP button

Changes the information on the display (p.25).

Switching Between Mode and Mode

In this manual, the capture mode, such as for taking still pictures, is referred to as “ mode” (the capture mode). The playback mode, such as for displaying captured images on the display, is referred to as “ mode” (the playback mode). In  mode, you can perform simple editing operations on the captured images.

Follow the procedure below to switch between  mode and  mode.

To Switch from Mode to Mode

1

Press the button.

The camera switches to  mode.

To Switch from Mode to Mode

1

Press the button or the shutter release button.

The camera switches to  mode.

Displaying the data stored in the built-in memory

When an SD Memory Card is inserted in the camera, images and movies on the SD Memory Card are displayed. If you want to display images and movies in the built-in memory, turn the camera off and remove the SD Memory Card.



Make sure that the camera is turned off before inserting or removing the SD Memory Card.

Setting the Camera Functions

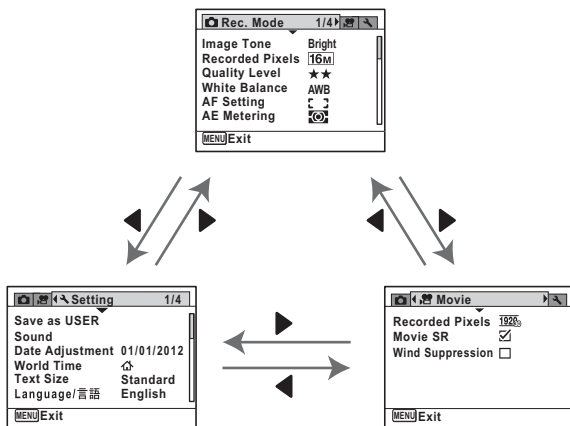
To change the camera settings, press the **MENU** button to display the menu screens. Functions for playing back and editing images are called up from the Playback Mode Palette (p.122).

Operating the Menus

There are three menus available with the camera: [📷 Rec. Mode], [🎬 Movie], and [⚙️ Setting].

Press the **MENU** button in still picture capture mode to display the [📷 Rec. Mode] menu. Press the **MENU** button in movie mode to display the [🎬 Movie] menu. Press the **MENU** button in ▶️ mode to display the [⚙️ Setting] menu.

Use the four-way controller (◀▶) or e-dial to switch between the menus.



Available button/key operations appear on the display during menu operation (p.27).

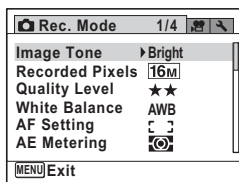
Ex.) To set [Quality Level] in the [📷 Rec. Mode] menu

1 Press the MENU button in still picture capture mode.

The [📷 Rec. Mode] menu appears.

2 Press the four-way controller (▼).

The frame moves to [Image Tone].



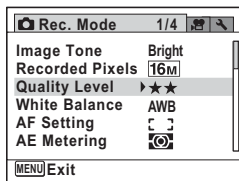
3 Press the four-way controller (▼) twice.

The frame moves to [Quality Level].

4 Press the four-way controller (▶).

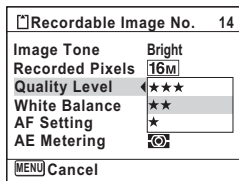
A pull-down menu appears with the items that can be selected.

The pull-down menu displays only those items that can be selected with the current camera settings.



5 Use the four-way controller (▲▼) to change the setting.

The quality level changes each time the four-way controller (▲▼) is pressed.



6 Press the OK button or the four-way controller (◀).

The setting is saved and then the camera is ready for setting the other functions. To exit the setting operation, press the **MENU** button.

To perform another operation, refer to the following alternate Step 6 options.

To Save the Setting and Start Taking Pictures

6 Press the shutter release button halfway.

The setting is saved and the camera returns to capture status.
When the shutter release button is pressed fully, the picture is taken.



When the [Setting] menu is displayed from [mode], you can switch to [mode] by pressing the [mode] button.

To Save the Setting and Start Playback of Images

6 Press the [mode] button.

When the [Rec. Mode] menu is displayed from still picture capture mode, the setting is saved and the camera returns to playback status.

To Cancel the Changes and Continue with Menu Operations

6 Press the MENU button.

The changes are canceled and the screen shown in Step 3 reappears.



The **MENU** button function differs depending on the screen. Refer to the guide indications.

	Exit	Exits the menu and returns to the original screen.
		Returns to the previous screen with the current setting.
	Cancel	Cancels the current selection, exits the menu and returns to the previous screen.

Menu List

This displays the items that can be set with the menus and provides descriptions of each item. See the list of default settings in the Appendix "Default Settings" (p.205) to check whether the settings are saved when the camera is turned off and whether the settings return to the defaults when the camera is reset.

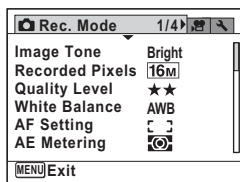
[Rec. Mode] Menu

Item		Description	Page
Image Tone		For setting the tone of still pictures	p.90
Recorded Pixels		For choosing the number of recorded pixels for still pictures	p.91
Quality Level		For setting the quality level of still pictures	p.92
White Balance		For adjusting the color balance according to the lighting conditions	p.93
AF Setting	Focusing Area	For setting the area of the autofocus	p.89
	Auto Macro	For adjusting the focus up to the macro range if necessary	p.89
	Focus Assist	For discharging an assist light when the subject is in a dark area and the autofocus system does not operate correctly	p.90
AE Metering		For choosing the area of the screen that is metered to determine the exposure	p.95
Sensitivity		For setting the sensitivity	p.96
AUTO ISO Range		For setting the adjustment range when sensitivity is set to [AUTO]	p.97
Flash Exp. Comp.		For adjusting the flash output	p.98
D-Range Setting	Highlight Correction	For adjusting the bright areas when the image is too bright	p.98
	Shadow Correction	For adjusting the dark areas when the image is too dark	
Shake Reduction		For choosing whether to compensate for camera shake while taking still pictures	p.99
Face Detection		For spotting the faces in your shot and automatically adjusting the focus and exposure for the faces	p.100
Blink Detection		For choosing whether to use the Blink Detection function when the Face Detection function is activated	p.101
Digital Zoom		For choosing whether to use the Digital Zoom function	p.66
Instant Review		For choosing whether to display Instant Review	p.102

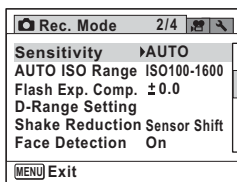
Memory	For choosing whether to save the set values of the shooting function or return to the defaults when the camera is turned off	p.116
Green Button	For assigning a function to the Green button so that you can go straight to it in  mode	p.105
Sharpness	For choosing sharp or soft outlines	p.102
Saturation (Tone Adjustment)	For setting the color saturation. When [Monochrome] is selected, [Tone Adjustment] is displayed.	p.102
Contrast	For setting the image contrast level	p.103
Date Imprint	For choosing whether to imprint the date and/or time when taking still pictures	p.103
IQ Enhancer*	For setting whether to perform the IQ enhancer	p.104

* IQ Enhancer = Image Quality Enhancer

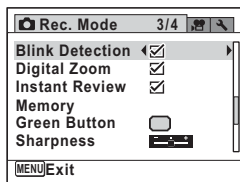
● [📷 Rec. Mode] Menu 1



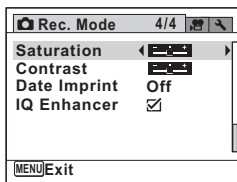
● [📷 Rec. Mode] Menu 2



● [📷 Rec. Mode] Menu 3



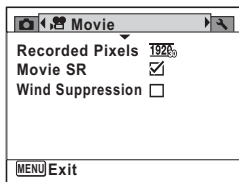
● [📷 Rec. Mode] Menu 4



- Use the  (Green) mode to enjoy easy picture-taking using standard settings, regardless of the settings in the [📷 Rec. Mode] menu (p.62).
- Assigning frequently used functions to the Green button enables you to go straight to the desired function (p.105).

[Movie] Menu

Item	Description	Page
Recorded Pixels	For choosing the number of recorded pixels for movies	p.114
Movie SR	For choosing whether to use the Movie Shake Reduction function	p.114
Wind Suppression	For suppressing wind noises during recording a movie	p.115

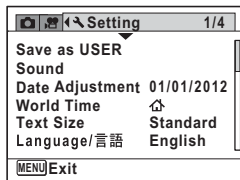


[Setting] Menu

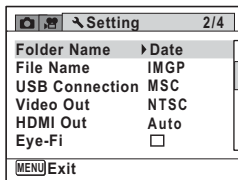
Item	Description	Page
Save as USER	For saving the current camera settings in USER on the mode dial	p.80
Sound	For adjusting the operation volume and playback volume, and setting the startup sound, shutter sound, key operation sound and self-timer sound	p.163
Date Adjustment	For adjusting the date and time	p.164
World Time	For setting the Hometown and Destination	p.166
Text Size	For setting the text size of the menu	p.168
Language/言語	For setting the language in which menus and messages appear	p.169
Folder Name	For choosing how names are assigned to folders for storing images	p.169
File Name	For choosing how names are assigned to image files	p.172
USB Connection	For setting the method of connecting the camera to a computer (MSC or PTP)	p.183
Video Out	For setting the output format to an AV device	p.173
HDMI Out	For setting the HDMI output format when connecting the camera to an AV device with an HDMI terminal	p.174
Eye-Fi	For setting when transferring images using an SD Memory Card with a built-in wireless LAN (Eye-Fi card)	p.175
Brightness Level	For changing the brightness of the display	p.176

Item	Description	Page
Power Saving	For setting the time until the camera enters power-saving mode	p.176
Auto Power Off	For setting the time until the camera turns off automatically	p.177
Quick Zoom	For choosing whether to use [Quick Zoom] (p.128) when playing back images	p.178
Guide Display	For setting whether to display explanations for selected items in Capture Mode Palette, Movie Mode Palette and Playback Mode Palette displays	p.178
Select Battery	For choosing the type of AA batteries to be used	p.178
Reset	For returning settings other than the date and time, language, world time and video out to their defaults	p.181
Delete All	For deleting all the saved images at once	p.131
Pixel Mapping	For mapping out and correcting any defective pixels in the image sensor	p.180
Playback Shortcut	For choosing whether to start up the camera in playback mode by holding down the  button	p.181
Format	For formatting the SD Memory Card/built-in memory	p.162

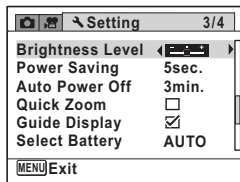
● [Setting] Menu 1



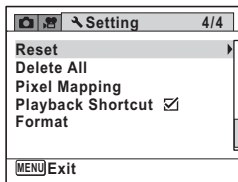
● [Setting] Menu 2



● [Setting] Menu 3



● [Setting] Menu 4

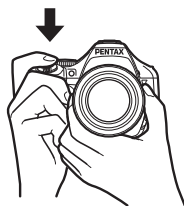


Taking Still Pictures

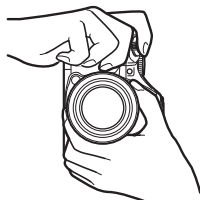
Holding the Camera

How you hold the camera is important when taking pictures.

- Hold the camera firmly with both hands.
- Press the shutter release button gently when taking a picture.



Horizontal position



Vertical position



To reduce camera shake, support your body or the camera on a solid object such as a table, tree, or wall.

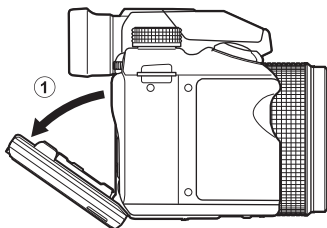
Adjusting the Position of the Display

The display can be lowered down to approx. 60° or raised upward to approx. 90°. This is convenient for shooting at a low angle, or shooting with the camera above your head.

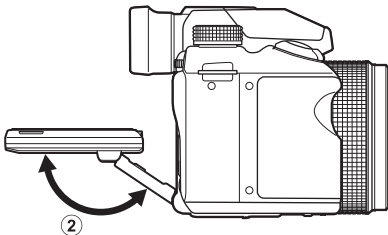


- Be careful not to apply excessive force to the display when adjusting its position.
- The display cannot be moved horizontally.
- Put the display back in the original position when using in ordinary situations.

- ① Pull out the top of the display in the direction of the arrow.



- ② Move the display in the direction of the arrow according to your desired shooting angle.



Taking Pictures

This camera features various capture modes, focus modes, and drive modes for expressing your photographic vision. This section explains how to take pictures using **AUTO PICT** (Auto Picture) mode, by simply pressing the shutter release button.

In **AUTO PICT** mode, the camera automatically selects the most appropriate capture mode depending on the situations and subjects.

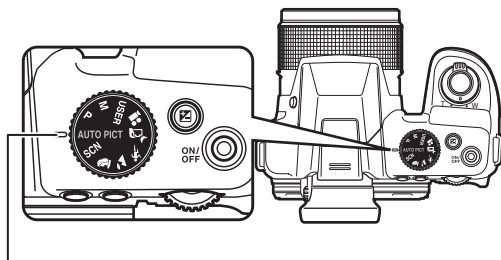
1 Remove the lens cap.

2 Press the power button.

The camera turns on and enters "Capture Mode".

3 Set the mode dial to AUTO PICT.

The camera will select the optimal capture mode for the subject.



Dial indicator

4

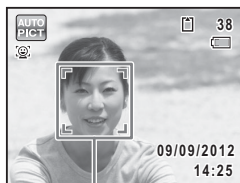
Confirm the subject and shooting information on the display.

The focus frame in the middle of the display indicates the zone of automatic focusing.



Focus frame

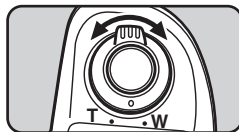
When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.61).



Face detection frame

You can change the captured area by turning the zoom lever to the right or left (p.64).

- Right (**T**) Enlarges the subject.
- Left (**W**) Widens the area that is captured by the camera.



5

Press the shutter release button halfway.

The selected shooting mode is displayed on the top left of the screen.



	Standard		Night Scene		Night Scene Portrait
	Landscape		Flower		Portrait
	Sport		Candlelight		Blue Sky
	Portrait x Blue Sky		Portrait x Backlight		Sunset
	Portrait x Sunset		Group Photograph		Text

The focus frame (or face detection frame) on the display turns green when the camera focuses on the subject at the correct distance.
To use the flash, press the button to pop up the flash (p.84).

6

Press the shutter release button fully.

The picture is taken.

The flash discharges automatically depending on the light conditions.
The captured image appears on the display (Instant Review: p.60) and is saved to the SD Memory Card or the built-in memory.



The following restrictions apply in **AUTO PICTURE** mode:

- You cannot set the Face Detection function to [Off].
- The focusing area setting is fixed at (Multiple).
- The (Flower) mode cannot be selected when using Digital Zoom or Intelligent Zoom.
- The flash mode is fixed to when (Night Scene) mode is selected.
- When the drive mode is set to (Burst Shooting(L)), or (Burst Shooting(H)), pictures are taken consecutively in shooting mode selected for the first shot.

To Use the Shutter Release Button

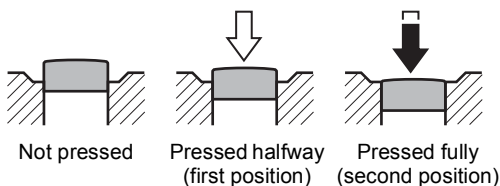
The shutter release button works in a two-step action as follows.

Press halfway

This refers to pressing the shutter release button gently to the first position. This locks the focus setting and the exposure. The green focus frame lights on the display when the shutter release button is pressed halfway and the subject is in focus. If the subject is out of focus, the frame turns white.

Press fully

This refers to pressing the shutter release button all the way down to the fully depressed position. This takes a picture.



Subjects that are difficult to focus on

The camera may not be able to focus under the following conditions. In these cases, lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully.

- Objects that lack contrast such as a blue sky or white wall
- Dark places or objects, or conditions that prevent light being reflected back
- Intricate patterns
- Fast moving objects
- When there is an object in the foreground and an object in the background in the captured area
- Strongly reflected light or strong backlighting (bright background)

Instant Review and Blink Detection

The image appears on the display immediately after capturing (Instant Review). If the camera detects that the subject's eyes are closed while the Face Detection function is activated, the message [Closed eyes have been detected] appears for 3 seconds (Blink Detection).



- When the Face Detection function does not work, Blink Detection also does not function. Even if the subjects' faces are detected, Blink Detection may not function depending on the condition of the detected faces.
- You can set the Instant Review function to off (p.102).
- You can also disable the Blink Detection function (p.101).

Using the Face Detection Function

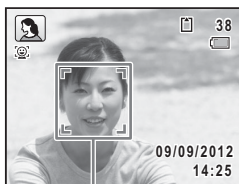
With this camera, the Face Detection function is available with all shooting modes.

When the camera detects a person's face in the image, the Face Detection function displays a yellow face detection frame around the face on the screen display, sets the focus (Face Detection AF) and compensates the exposure (Face Detection AE).

If the subject in the face detection frame moves, the frame also moves and changes its own size as it tracks the face.

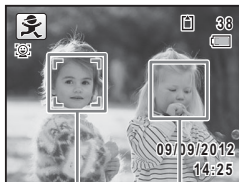
The Face Detection function can detect up to 32 people's faces. If it detects multiple faces, the camera displays a yellow frame over the main face and white frame(s) over the other face(s). It can display up to a total of 31 frames including a main frame and white frame(s).

The default setting is [On]. You can switch to the Smile Capture function that automatically releases the shutter when the subject smiles. Refer to "Switching the Face Detection Function" (p.100) for details.



Face detection frame

When the multiple faces are detected



Main frame

White frame

Taking Pictures in the Custom Settings (Program Mode)

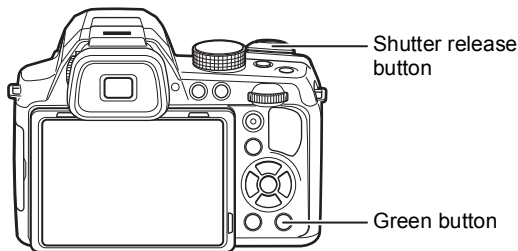
In **P** (Program) mode, the camera automatically sets the shutter speed and aperture for taking still pictures. However, you can select other functions such as the flash mode and the number of recorded pixels.

- 1 Set the mode dial to P.**
- 2 To use the flash, press the  button.**
The flash pops up (p.84).
- 3 Take the picture.**

Taking Pictures in Basic Mode (Green Mode)

In **■** (Green) mode, you can enjoy easy picture-taking using standard settings, regardless of the settings in the [ Rec. Mode] menu. The **■** (Green) mode settings are as shown below.

Drive Mode	☐ (Standard)	Focus Assist	☒ (On)
Flash Mode	 (Auto)	AE Metering	 (Multi-segment metering)
Focus Mode	AF (Standard)	Flash Exposure Compensation	±0.0
Face Detection function	 (On)	Highlight Correction	☐ (Off)
Information Display	Normal	Shadow Correction	☐ (Off)
EV Compensation	±0.0	Shake Reduction	Sensor Shift
Image Tone	Bright	Blink Detection	☒ (On)
Recorded Pixels	16M	Digital Zoom	☒ (On)
Quality Level	★★ (Better)	Instant Review	☒ (On)
White Balance	AWB (Auto)	Sharpness	— — — — — (Normal)
Sensitivity	AUTO	Saturation	— — — — — (Normal)
AUTO ISO Range	ISO 100-1600	Contrast	— — — — — (Normal)
Focusing Area	[] (Multiple)	Date Imprint	Off
Auto Macro	☒ (On)	IQ Enhancer	☒ (On)



1 Press the Green button in mode.

The camera switches to  mode.

Press the Green button again to return to the status before  mode was selected.

When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.61).

To use the flash, press the  button to pop up the flash (p.84).



2 Press the shutter release button halfway.

The focus frame on the display turns green when the camera focuses on the subject at the correct distance.

3 Press the shutter release button fully.

The picture is taken.



- The  mode is available only when it is assigned to the Green button in [Green Button] of the [ Rec. Mode] menu (p.105). By default, the  mode is assigned to the Green button.
- In  mode, you cannot change the information on the display by pressing the **DISP** button.
- If you press the **MENU** button in  mode, the [ Setting] menu appears. The [ Rec. Mode] menu cannot be displayed.
- When the camera is turned off in  mode, it turns on in  mode next time the power button is pressed.

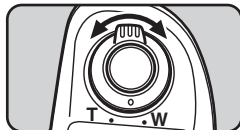
Using the Zoom

You can use the zoom to change the captured area.

1 Turn the zoom lever in mode.

Right (**T**) Enlarges the subject.

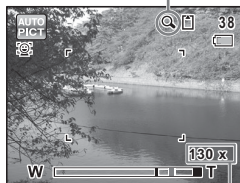
Left (**W**) Widens the area that is captured by the camera.



If you continue turning the lever to the right (**T**), the camera automatically switches from optical zoom to Intelligent Zoom and stops at the point it switches to Digital Zoom.

Once the lever is released and turned again, the camera switches to Digital Zoom.

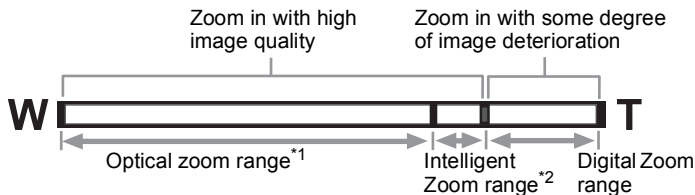
Green: Intelligent Zoom
White: Digital Zoom



Zoom ratio

Zoom bar

The zoom bar is displayed as follows:



*1 You can zoom in to a maximum of 26× optically (4.0 mm -104.0 mm (Approx. 22.3 mm - 580 mm in 35 mm equivalent focal length)).

*2 The Intelligent Zoom range differs depending on the number of recorded pixels. See the following table.

Recorded pixels and the maximum zoom ratio

Recorded Pixels	Intelligent Zoom	Digital Zoom
<u>16M</u>	Not Available (26× optical zoom only)	Equivalent to approx. 187.2×
<u>12M 16:9</u>		
12M <u>16:1</u>		
<u>7M</u>	Approx. 39×	
<u>5M</u>	Approx. 46.2×	
<u>5M 16:9</u>	Approx. 39×	
<u>4M 16:9</u>	Approx. 46.2×	
<u>3M</u>	Approx. 58.5×	
<u>2M</u>	Approx. 74.9×	
<u>2M 16:9</u>	Approx. 62.4×	
<u>1024</u>	Approx. 117×	
<u>640</u>	Approx. 187.2×	



- It is recommended to use a tripod or other support to prevent camera shake when taking pictures at high zoom.
- When the focus mode is set to (Macro) or (1cm Macro), the zoom position is fixed.
- Pictures taken in the Digital Zoom range appear grainier than pictures taken in the optical zoom range.
- Intelligent Zoom is not available when the number of recorded pixels is set to 16M/12M 16:9/12M 16:1 (26× optical zoom and Digital Zoom are available).
- The image enlarged using Intelligent Zoom may appear rough on the display. This does not affect the quality of the recorded image.
- Only Digital Zoom is available while recording a movie in (Movie) mode.

To Set the Digital Zoom

The Digital Zoom is set to ☒ (On) in the default setting. To take pictures using only the optical zoom and Intelligent Zoom range, set the Digital Zoom to ☐ (Off).

1 Press the **MENU** button in still picture capture mode.

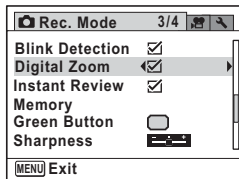
The [📷 Rec. Mode] menu appears.

2 Use the four-way controller (▲▼) to select [Digital Zoom].

3 Use the four-way controller (◀▶) to select ☒ or ☐.

- ☒ Uses Digital Zoom
- ☐ Uses only optical zoom and Intelligent Zoom

The setting is saved.



4 Press the **MENU** button.

The camera returns to capture status.

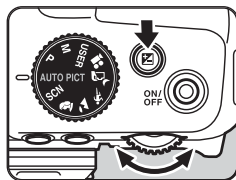
Saving the Digital Zoom Function setting p.116

Adjusting the Exposure

You can adjust the overall brightness of the picture.

Use this function to take pictures that are intentionally overexposed (brighter) or underexposed (darker).

1 Press the button in mode.



2

Turn the e-dial.

To brighten, select a positive (Q) value. To darken, select a negative (R) value.

You can choose the EV compensation value in the range of ± 2.0 EV in increments of $1/3$ EV.

3

Press the button.

EV compensation value is saved and the camera returns to capture status.



- EV compensation value always appears on the display when set to a value other than ± 0.0 . When set to ± 0.0 , it disappears if you press the  button.
- In  (Green) or  (Auto Picture) mode, EV compensation value is fixed at ± 0.0 .
- In **M** (Manual Exposure) mode, EV Compensation is unavailable.
- The EV compensation value displayed on the screen is enlarged when you press the  button.



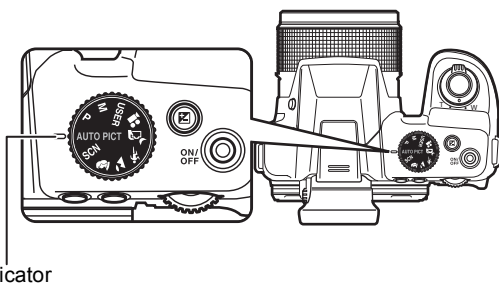
Normal Display



When the  button is pressed

Selecting the Shooting Mode

You can switch the shooting modes by setting the icons on the mode dial to the dial indicator.



This camera features various shooting modes, enabling you to take pictures with settings suited to your photographic vision.

Picture Modes

There are following shooting modes:  (Auto Picture),  (Handheld Night Snap),  (Sport),  (Landscape) and  (Portrait).

The characteristics of each mode are as follows.

Modes		Characteristics
 Auto Picture		The optimal capture mode is selected automatically from standard settings. (p.57)
 Handheld Night Snap		Minimizes camera shake for shooting at night or other low light settings.
 Sport		For a fast moving subject. Tracks the subject until the picture is taken.
 Landscape		For capturing landscape views. Enhances colors of sky and foliage.
 Portrait		For capturing portraits. Reproduces a healthy and bright skin tone.



- In mode, the camera tracks the subject and continues to focus on it. When [Focusing Area] (p.89) is set to (Multiple) or (Spot), focus can be locked by pressing the shutter release button halfway.
- Some functions may not be available or may not work fully depending on the selected shooting mode. For details, refer to “Functions Available for Each Shooting Mode” (p.196).

SCN Modes

By setting the mode dial to **SCN** (Scene), you can choose from the following shooting modes.

Shooting Mode	Description
Flower	For images of flowers. The outline of the flower is softened.
Blue Sky	Emphasizes saturation of the sky to produce a bright image.
Sunset	For images of sunsets and warm lighting.
Night Scene	For night time images. Use of a tripod or other support is suggested.
Night Scene Portrait	For images of people at night. Use of a tripod or other support is advised. When the flash mode is set to (Auto) and the camera detects a person's face, the flash mode automatically changes to (Flash On + Red-eye).
Fireworks	For capturing fireworks. Use of a tripod or other support is suggested. The shutter speed is fixed at 4 seconds and the sensitivity is fixed at the minimum value.
HDR HDR Filter	Processes single image to simulate HDR effect.
Surf & Snow	For bright images such as sand or snow. Accurately meters for bright scenes.
Baby	For images of babies. Captures bright images of a baby's expressions.
Kids	For capturing moving kids. Reproduces a healthy and bright skin tone.
Pet	For capturing moving pets. Detection of registered pets is also available. (p.77)
Food	For images of food and prepared dishes. Enhances saturation and contrast.
Digital SR	Higher sensitivity reduces blur. The sensitivity is fixed to [AUTO].

Shooting Mode	Description
 Stage Lighting	For moving subjects on poorly lit stages. Resolution is reduced to [2M].
 Text	Captures text in an easy to read manner. Text contrast can be adjusted.
 Museum	For capturing images in places where a flash is prohibited.
 Digital Wide	Stitches two pictures together to create a wider image. (p.73)
 Digital Panorama	Stitches images taken with the camera to create a panoramic photograph. (p.75)
 Frame Composite	For capturing images with a frame. (p.72)



- In shooting modes other than , ,  and **HDR**, saturation, contrast, sharpness, white balance, etc. are set to the optimal settings for the selected mode.
- In  or  mode, the camera tracks the subject and continues to focus on it. When [Focusing Area] (p.89) is set to [] (Multiple) or [] (Spot), focus can be locked by pressing the shutter release button halfway.
- Some functions may not be available or may not work fully depending on the selected shooting mode. For details, refer to “Functions Available for Each Shooting Mode” (p.196).

1 Set the mode dial to SCN.

The camera enters **SCN** mode last selected. The default setting is  (Flower).

2 Press the four-way controller (▼).

The Capture Mode Palette appears.

3 Use the four-way controller (▲▼◀▶) to choose a shooting mode.

When an icon is selected in the Capture Mode Palette, the guide for the selected shooting mode appears.



You can turn the guide display off for each mode on the Capture Mode Palette (p.178).

Press the OK button.

The shooting mode is fixed and the camera is set to capture status.

To use the flash, press the  button to pop up the flash (p.84).



Exposure Modes

Use the exposure modes to change the shutter speed and aperture value and take pictures according to your own photographic vision.

Shooting Modes	Description	Page
P Program	This mode automatically sets the shutter speed and aperture value to the proper exposure according to Program Line.	p.62
M Manual Exposure	Lets you set the shutter speed and aperture value to capture the picture with creative intent.	p.79
USER USER	Lets you use previously-saved settings defined by the user.	p.80

Various Shooting Methods

Framing Your Pictures (Frame Composite Mode)

In  (Frame Composite) mode, you can take pictures using the frames stored in the camera.

1 Use the four-way controller (▲▼◀▶) to select  from the Capture Mode Palette.

2 Press the OK button.

The 9-frame display of the frame selection screen appears.

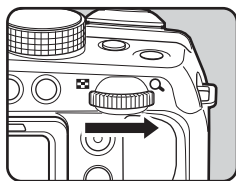
3 Use the four-way controller (▲▼◀▶) to choose the frame you want to use.



4 Turn the e-dial to the right (Q).

The selected frame appears in single-image display.

You can choose another frame using either of the following operations.



Four-way controller (◀▶)	Chooses a different frame.
e-dial to the left (Q)	Returns to the 9-frame display of the frame selection screen, and then lets you choose a different frame in the same way as Step 4.

5 Press the OK button.

The framed image appears on the display.

When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.61).

6

Press the shutter release button halfway.

The focus frame (or face detection frame) on the display turns green when the camera focuses on the subject at the correct distance.

To use the flash, press the  button to pop up the flash (p.84).

7

Press the shutter release button fully.

The picture is taken.

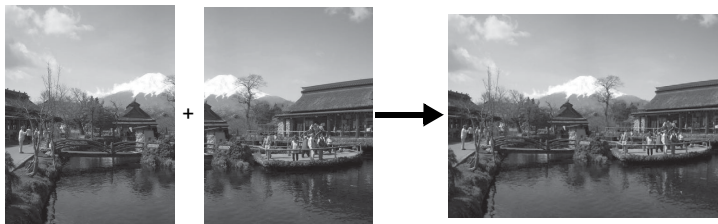


- The number of recorded pixels is fixed at **[3M]**.
- By default, three frames are built-in to the camera. These frames are not deleted even if the built-in memory is formatted. The CD-ROM supplied with the camera contains optional frames. To save the frames into the built-in memory, copy the files from the CD-ROM (p.152).
- In  mode, you cannot display "Grid Display" by pressing the **DISP** button.

Adding a Frame to a captured image  p.150

Using the Digital Wide Function (Digital Wide Mode)

In **[WIDE]** (Digital Wide) mode, you can stitch two vertical images captured with this camera into a single frame up to approx. 17 mm coverage (35 mm film equivalent).



1

Use the four-way controller (   ) to select **[WIDE]** from the Capture Mode Palette.

2

Press the OK button.

The camera enters **WIDE** mode.

Hold the camera vertically so that the shutter release button is on the bottom, and compose the first image (left half of picture). When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.61).



3

3

Press the shutter release button to take a shot.

The first captured image is temporarily saved, and the shooting screen for the second image is displayed.



4

Take the second image.

Overlap the image on the preview guide on the left of the screen to compose the second image (right half of picture). Repeat Step 3 to take the second image.

The stitched first and second image appears on the display (Instant Review), and then is saved.



- To minimize distortion when taking the second image, turn the camera so that it pivots around the right edge of the preview guide on the screen.
- Some distortion may result from moving objects, repeating patterns, or if nothing exists when overlapping the first and second image on the preview guide.
- When the Face Detection function (p.100) is set to [On], it works only when taking the first shot.
- The composite image is saved with the pixel size of **5M**.

- 1 When the shooting screen for the second image is displayed in Step 4 on p.74, press the **OK** button or the **four-way controller (▼)**.

A confirmation dialog appears.

- 2 Use the **four-way controller (▲▼)** to select an option and press the **OK** button.

Save	Saves the first image and you can retake the first shot. The first image is saved in [3M].
Discard	Discards the first image and you can retake the first shot.
Cancel	Returns to the shooting screen for the second image.

Taking Panoramic Pictures (Digital Panorama Mode)

In **■■■** (Digital Panorama) mode, you can stitch together two or three captured frames to create a panoramic photograph with the camera.

- 1 Use the **four-way controller (▲▼◀▶)** to select **■■■** from the **Capture Mode Palette**.

- 2 Press the **OK** button.

The camera enters **■■■** mode and the message [Set shift direction] is displayed.

- 3 Use the **four-way controller (◀▶)** to choose the direction in which the images will be joined.

The screen for taking the first frame is displayed.

When the camera detects a person's face, the Face Detection function is activated and the face detection frame appears (p.61).



4 Press the shutter release button to take a shot.

The screen for taking the second frame is displayed after you take the first frame.

If you select right (▶) in Step 3:

The right edge of the first frame appears in semi-transparent form on the left edge of the display.

If you select left (◀) in Step 3:

The left edge of the first frame appears in semi-transparent form on the right edge of the display.

5 Take the second frame.

Move the camera so that the semi-transparent image and the actual view overlap and press the shutter release button.



6 Take the third frame.

Repeat Steps 4 and 5 to take the third frame.

The panorama images are joined and a stitched together image appears.

The stitched image does not appear when [Instant Review] (p.102) is ☐ (Off).



- Some distortion may result from moving objects, repeating patterns, or if nothing exists when overlapping the first and second frames or the second and third frames on the preview guide.
- When the Face Detection function (p.100) is set to [On], it works only when taking the first shot.

To Cancel after Taking the First or Second Frame

1 After shooting the first frame in Step 4 on p.76 or the second frame in Step 5, press the OK button or the four-way controller (▼).

A confirmation dialog appears.

- 2 Use the four-way controller (▲▼) to select an option and press the OK button.**

Save	Saves the captured image(s) and you can retake the first frame. When this option is selected after shooting the second frame, the first and the second frames are stitched together and saved as a panoramic photograph.
Discard	Discards the captured image(s) and you can retake the first frame.
Cancel	Returns to the previous shooting screen.



Unstitched images captured in ■■■ mode are saved with a pixel size of 2M.

Taking Pictures of Your Pet (Pet Mode)

In 🐾 (Pet) mode, the camera automatically releases the shutter when the pet is detected. Also the camera can register pets.

- 1 Use the four-way controller (▲▼◀▶) to select 🐾 (Pet) from the Capture Mode Palette.**

- 2 Press the OK button.**

The 🐾 mode is selected and the camera is set to capture status.

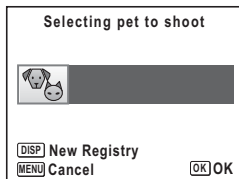
When the camera detects the pet's full face, a pet detection frame appears, and the shutter is automatically released.



To Register the Pet

- 1 Press the OK button on the capture status screen in 🐾 mode.**

The pet selection screen appears.



Press the DISP button.

The pet registration screen appears. Aiming the camera at the pet's full face automatically releases the shutter and the pet registration confirmation dialog appears.



When you select [Registry] using four-way controller (▲▼) and press the **OK** button, the picture of the registered pet is indicated on the upper-left corner of the display and the camera returns to capture status.

When the camera detects the pet's full face, a pet detection frame appears, and the shutter is automatically released. You can also take a picture by pressing the shutter release button.



When you press the **OK** button in the capture status screen, the pet registration screen appears to register another pet. You can register up to three pets.



- When you press the **MENU** button on the pet registration screen, the registration will be canceled and the camera returns to capture status.
- Only dogs and cats can be registered in mode. Other animals or human faces cannot be registered. You may not be able to register the pet's face if, for example, the pet's face is too small.
- The camera may not detect the registered pet's face, depending on the shooting situation.
- [Focusing Area] is set to (Automatic Tracking AF) and the flash mode is set to (Flash Off). However, you can change these settings.
- [Focus Assist] is set to (Off). However, you can change this setting.

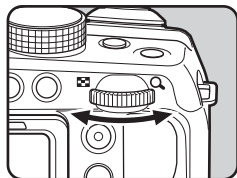
Using M (Manual Exposure) Mode

You can set the shutter speed and aperture value to capture the picture with creative intent. This mode is convenient for taking pictures using the metered combination of the shutter speed and aperture value or taking intentionally overexposed (brighter) or underexposed (darker) photographs.

1 Set the mode dial to M.

2 Turn the e-dial to change the shutter speed/aperture value.

Use the  button to switch between the shutter speed and aperture value. (The default setting is shutter speed.)



3 To use the flash, press the button.

The flash pops up (p.84).

4 Take the picture.



- In **M** mode, EV Compensation is unavailable.
- [AUTO] cannot be selected for sensitivity.
- Flash modes  (Auto) and  (Auto + Red-eye) are not available.



- A warning appears if there is a large difference between the current exposure and the proper exposure. If the difference is greater than $\pm 2.0\text{EV}$, only the exposure warning icon is displayed. If the difference is $\pm 2.0\text{EV}$ or less, the exposure warning icon is displayed and the difference between the current exposure and the proper exposure is shown in increments of $1/3\text{EV}$.
- When the shutter speed is set to a speed slower than $1/4$ seconds, a process to reduce image roughness and unevenness (noise reduction) is performed.
- When the shutter speed or aperture value is changed, the new value is displayed in a larger font size.
- Even when the zoom ratio is changed, the aperture value is maintained. However, when the current aperture value cannot be used with the selected zoom ratio, the closest aperture value is set. In this case, if you change the zoom ratio again and the original aperture value can be used, the setting returns to the original aperture value.

Using USER (USER) Mode

To Save the Settings in USER Mode

By saving the current camera settings, you can easily retrieve them by setting the mode dial to **USER**.

The following settings can be saved:

- Shooting modes **P** (default setting)/**M**
- Aperture
- Shutter speed
- [📷 Rec. Mode] menu settings
- Flash mode
- Drive mode
- Focus mode
- EV Compensation
- MF Position
- Exposure compensation range of Auto Bracketing
- **DISP** button information display
- Face Detection mode

1 Set the mode dial to **P** or **M**.



You can save settings in **USER** mode only when the mode dial is set to **P** or **M**.

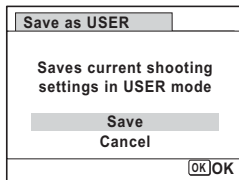
2 Set the functions to be saved.

3 Use the four-way controller (▲ ▼) to select [Save as USER] in the [🔍 Setting] menu.

4 Press the four-way controller (▶).

The [Save as **USER**] screen appears.

- 5** Press the four-way controller (▲) to select [Save].



- 6** Press the OK button.

The save process starts.

When the save process is completed, the camera returns to mode or mode.

To Take Pictures in USER Mode

- 1** Set the mode dial to USER.

The saved settings are retrieved.

- 2** Change the settings already saved in USER mode as necessary.

- 3** To use the flash, press the button.

The flash pops up (p.84).

- 4** Take the picture.



The settings changed in **USER** mode are only valid when the mode dial is set to **USER**. Changing the capture mode or turning off the power returns the camera to the settings saved with [Save as **USER**]. To change the settings of **USER** mode, perform the operations in [Save as **USER**] again.

Setting the Shooting Functions

Selecting the Flash Mode

Auto	The flash discharges automatically depending on the light conditions. If the Face Detection function is activated, the flash mode is automatically set to .
Flash Off	The flash does not discharge, regardless of the brightness. Use this mode to take pictures where flash photography is prohibited.
Flash On	The flash discharges regardless of the brightness.
Auto + Red-eye	This mode reduces the phenomenon of red eyes caused by the light from the flash being reflected in the subject's eyes. The flash discharges automatically. A pre-flash discharges before the main flash.
Flash On + Red-eye	This mode reduces the phenomenon of red eyes caused by the light from the flash being reflected in the subject's eyes. The flash discharges regardless of the light conditions. A pre-flash discharges before the main flash.
Slow-speed Sync	For taking bright pictures of both people and background indoors and outdoors at night. The flash discharges automatically.
Slow-speed Sync+Red-eye	Discharges a pre-flash to reduce the phenomenon of red eyes before discharging the flash with Slow-speed Sync.



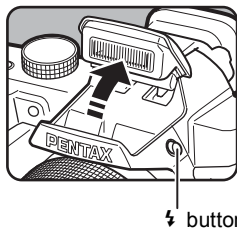
- The flash mode is fixed at in the following situations:
 - when (Handheld Night Snap), (Stage Lighting), (Fireworks), (Time-Lapse Movie), (Movie) or (High Speed Movie) is selected as the capture mode
 - when (Continuous Shooting), (Burst Shooting(L)), (Burst Shooting(H)) or (Auto Bracketing) is selected as the drive mode
 - when (Infinity) is selected as the focus mode
- In (Green) mode, you can only select or .
- In (Night Scene) mode, you cannot select or .



Using the flash when capturing images at a close distance may cause irregularities in the image due to the light distribution. When using the flash at an extremely close distance, a shadow of the lens may appear in the picture taken.

1 Press the **⚡** button.

The flash pops up and begins charging.



2 Press the four-way controller (◀) in still picture capture mode.

The [Flash Mode] screen appears.



3 Use the four-way controller (◀▶) to select a flash mode.

4 Press the OK button.

The setting is saved and the camera returns to capture status.

About the red-eye phenomenon

Taking pictures using the flash may cause the subject's eyes to appear red in the resulting picture. This phenomenon occurs when the light from the flash is reflected in the subject's eyes. It can be reduced by increasing the illumination in the area around the subject and/or decreasing the subject distance and adjusting the lens to wider angle setting. Setting the flash mode to , , or  is also an effective way of reducing red eyes.

If the subject's eyes appear red despite such precautions, they can be corrected by the Red-eye Edit function (p.149).

Saving the Flash Mode setting  p.116

To Use the Flash

1 Select a capture mode.

2 Press the  button.

The flash pops up and begins charging.

 (Red) blinks on the display while charging.

When the flash is fully charged,  appears on the display (not displayed in  mode).

3 Press the shutter release button halfway.

The focus frame (or face detection frame) on the display turns green when the camera focuses on the subject at the correct distance.

4 Press the shutter release button fully.

The flash discharges and the picture is taken.

5 Push the flash down to retract.

Selecting the Drive Mode

 Continuous Shooting	Each time a picture is taken, the image is saved in the memory before the next image is taken. The higher the image quality, the longer the interval between shots. You can continue shooting until the memory of the SD Memory Card or the built-in memory is full.
 Burst Shooting(L)	The number of recorded pixels is fixed to  or  and pictures are taken continuously. The interval between shots becomes shorter in the following sequence:  , and  .
 Burst Shooting(H)	
 Self-timer	The picture is taken approximately ten seconds after the shutter release button is pressed. Use this mode when you want to be included in a group picture.
 2 sec. Self-timer	The picture is taken approximately two seconds after the shutter release button is pressed. Use this mode to avoid camera shake.
 Remote Control	The shutter will be released after about three seconds when the shutter release button on the remote control unit is pressed.
 0-sec Remote Control	The shutter will be released immediately when the shutter release button on the remote control unit is pressed.



Auto Bracketing

When the shutter release button is pressed once, three consecutive pictures at different exposure levels are taken so that you can select the best one later.

The shooting order is: correct exposure → negative compensation → positive compensation.

1

Press the four-way controller (▲) in mode.

The [Drive Mode] screen appears.

2

Use the four-way controller (◀▶) to select a drive mode and press the OK button.

The camera is ready to take the picture using the selected drive mode.



- Focusing may be compromised if you move the camera while the self-timer lamp is blinking when taking still pictures.
- The flash does not discharge in , ,  or  mode.
- In the following modes, you cannot select , ,  or .
 - (Green),  (Fireworks), **HDR** (HDR Filter),  (Frame Composite), **WIDE** (Digital Wide), or  (Digital Panorama) mode or when recording a movie.
- The drive mode cannot be selected when  (Handheld Night Snap) is set.



- For movies using the self-timer, recording will start ten seconds or two seconds after the shutter release button or the Movie button is pressed.
- Press the shutter release button halfway while the self-timer is running to stop the countdown and press fully to restart the countdown.
-  cannot be selected while the  (Green) mode settings remain as the default. However, it can be selected if you select  in another shooting mode first, and then switch the shooting mode to  (Green).
- In ,  or  mode, the number of pictures that can be taken consecutively and the frame rate per second vary depending on the shooting condition.
- In ,  or  mode, the focus, exposure and white balance are locked with the first shot.
- When [Face Detection] is set to [On] (p.100) in ,  or  mode, the function works only for the first shot.
- When ,  or  is selected as the drive mode in **AUTO PICTURE** (Auto Picture) mode, pictures are taken consecutively in shooting mode selected for the first shot.
- When Instant Review is set to ☒ (On) in  mode (p.102), the third picture taken is shown in Instant Review after shooting (p.60).

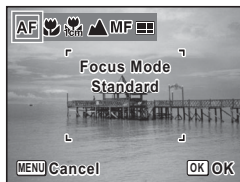
Selecting the Focus Mode

AF Standard	This mode is used when the distance to the subject is 40 cm (16 in.) or more. The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway.
 Macro	This mode is used when the distance to the subject is approx. 10 cm to 50 cm (4 in. to 20 in.). The camera is focused on the subject in the autofocus area when the shutter release button is pressed halfway.
 1cm Macro	This mode is used when the distance to the subject is 1 cm to 20 cm. (0.4 in. to 8 in.)
 Infinity	This mode is used for taking distant objects. The flash is set to  (Flash Off).
MF Manual Focus	This mode lets you adjust the focus manually.
 AF Area Selection	Select an area of the subject to focus on.

1 Press the four-way controller (►) in mode.

The [Focus Mode] screen appears.

The focus mode changes each time the four-way controller is pressed. You can also change the setting using the four-way controller (◀).



2 Press the OK button.

The setting is saved and the camera returns to capture status.



- In  (Green) mode, you can only select **AF** or .
- The focus mode is fixed at  in  (Fireworks) mode.
- When [Auto Macro] (p.89) is set to  (On) and shooting with  selected, if the subject is further than 50 cm away, the camera automatically focuses to ∞ (Infinity). By pressing the shutter release button fully, you can also take a picture even when the focus is not set.

Saving the Focus Mode setting  p.116

To Set the Focus Manually (Manual Focus)

1 Press the four-way controller (►) in  mode.

2 Press the four-way controller (►) to select **MF**.

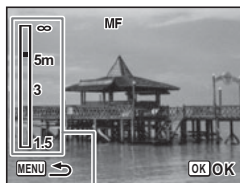
3 Press the **OK** button.

The central portion of the image is magnified to full screen on the display.

4 Use the four-way controller (▲▼) to adjust the focus.

The **MF** indicator appears on the display to indicate the approximate distance to the subject. Adjust the focus using the indicator as a guide.

- ▲ for distant focus
- ▼ for closer focus



MF indicator

5 Press the **OK** button.

The focus is fixed and the camera returns to capture status.

After the focus is fixed, you can press the four-way controller (►) again to display the **MF** indicator and readjust the focus.



The shooting mode and drive mode cannot be changed while the **MF** indicator is displayed.



To switch from **MF** to another focus mode, press the four-way controller (►) while the **MF** indicator is displayed.

To Select an Area to Focus On (AF Area Selection)

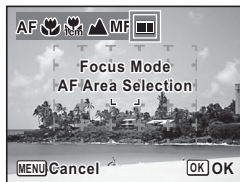
You can select an area to focus on from 25 points.

1 Press the four-way controller (►) in  mode.

2 Press the four-way controller (►) to select .

3 Press the OK button.

The [AF Area Selection] screen appears with the central portion selected.

**4 Use the four-way controller (▲▼◀▶) to select the area you want to focus on.****5 Press the OK button.**

The focusing area is fixed and the camera returns to capture status.

Setting the [📷 Rec. Mode] Menu

To set the main shooting functions, choose each function in the [📷 Rec. Mode] menu. Refer to the explanation of the respective functions for how to change the settings.

1 Press the MENU button in still picture capture mode.

The [📷 Rec. Mode] menu appears.

2 Use the four-way controller (▲▼) to select an item and change its setting.**3 Press the MENU button after changing the setting.**

The setting is saved and the camera returns to capture status.

Selecting the Autofocus Settings

You can set the autofocus area and focusing method.

1 Use the four-way controller (▲▼) to select [AF Setting] in the [📷 Rec. Mode] menu.**2 Press the four-way controller (▶).**

The [AF Setting] screen appears.

To Set the Focusing Area

You can change the autofocus area (Focusing Area).

 Multiple	The camera sets a focusing area in the center of the display and focuses on the nearest subject in the focusing area.
 Spot	The camera sets a narrow focusing area, making easier for you to focus on a specific subject.
 Automatic Tracking AF	The camera continues to focus on the moving subject while you are pressing the shutter release button halfway.

3 Use the four-way controller (▲ ▼) to change the focusing area setting.

4 Press the OK button.

The setting is saved.



- In  (Frame Composite),  (Movie),  (Time-Lapse Movie) and  (High Speed Movie) modes, the focusing area cannot be set to .
- In  (Green) and  (Fireworks) modes, the focusing area is fixed at .

To Set the Auto Macro

You can set the focus in the macro range when the distance to the subject is 50 cm or closer.

☒	When the focus mode is set to AF or  , the focus is adjusted to the macro range (distance to the subject: 10 cm to 50 cm) as necessary. When the focus mode is set to  , the focus is adjusted even within the standard range, as necessary. When it is set to  , the focus is only adjusted within the 1cm macro range (1 cm to 20 cm). (Default setting) When the Auto Macro function is activated during shooting,  appears on the display.
☐	The focus is only adjusted in the respective focus range.

3 Use the four-way controller (▲ ▼) to select [Auto Macro].

4 Use the four-way controller (◀ ▶) to select ☒ (On) or ☐ (Off).

The setting is saved.

To Set the Focus Assist Light

The focus assist light aids in focusing on dark subjects. This helps you to focus on the subject in low light conditions where auto focus does not work properly. The focus assist light is emitted from the self-timer lamp part.

3 Use the four-way controller (▲▼) to select [Focus Assist].

4 Use the four-way controller (◀▶) to select ☒ (On) or ☐ (Off).

The setting is saved.



- Looking at the light directly does not pose a safety but you may feel dazzled. Do not look directly into the emitter from a very short distance.
- The camera does not emit the focus assist light under the following conditions:
 - when the capture mode is set to (Time-Lapse Movie), (Movie) or (High Speed Movie) mode
 - when (Infinity) or **MF** is selected as the focus mode
- The default setting in (Pet) mode is ☐.

Setting the Image Tone

Set the image tone of still pictures.

You can select from [Bright] (Default setting), [Natural] or [Monochrome].

1 Use the four-way controller (▲▼) to select [Image Tone] in the [📷 Rec. Mode] menu.

2 Press the four-way controller (▶).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select a finishing tone.

4 Press the OK button.

The setting is saved.



When [Monochrome] is selected, [Tone Adjustment] appears in the [Rec. Mode] menu for setting the tone of monochrome images instead of [Saturation].

Selecting the Number of Recorded Pixels

You can choose from the following recorded pixels settings for still pictures.

The larger the number of recorded pixels, the clearer the details will appear when you print your picture. As the quality of the printed picture also depends on the image quality, exposure control, resolution of the printer, and other factors, you do not need to select more than the required number of recorded pixels. [3M] is adequate for making postcard-size prints. The more pixels there are, the larger the picture and the bigger the file size.

Refer to the following table for the appropriate settings according to expected usage.

(Default setting : [16M])

Recorded Pixels	Use
[16M] 4608×3456	For printing high quality photos or A4-size pictures or larger, or editing images on a computer
12M [12M] 3456×3456	
12M [12M] 4608×2592	
7M 3072×2304	
5M [5M] 3072×1728	For making postcard-size prints
5M 2592×1944	
4M [4M] 2592×1464	
3M 2048×1536	
2M [2M] 1920×1080	For posting on a website or attaching to e-mail
1024 1024× 768	
640 640× 480	

Clearer
↑



If you select **12M 16:9**, **5M 16:9**, **4M 16:9** or **2M 16:9**, the aspect ratio of the image is 16:9 (same as that of HDTV) and the monitor display for recording and playback is as shown on the right.



3

1

Use the four-way controller (▲▼) to select [Recorded Pixels] in the [Rec. Mode] menu.

2

Press the four-way controller (▶).

A pull-down menu appears.

3

Use the four-way controller (▲▼) to change the number of recorded pixels.

4

Press the OK button.

The setting is saved.



- The number of recorded pixels for images captured in **●** (Green) mode is fixed at **16M**.
- The number of recorded pixels for images captured in **□** (Frame Composite) mode is fixed at **3M**.
- The number of recorded pixels for images captured in **WIDE** (Digital Wide) mode is fixed at **5M**. (The number of recorded pixels is **3M** if you exit **WIDE** mode without taking the second image.)
- The number of recorded pixels for images captured in **Y** (Stage Lighting) mode is fixed at **2M**.

Selecting the Quality Level of Still Pictures

You can set the quality level for still pictures according to how the images will be used.

The more stars (★), the higher the quality of the image, but the file size becomes larger. The selected recorded pixels also affect the size of the image file (p.91).

★★★ Best	Lowest compression ratio. Suitable for photo prints.
★★ Better	Standard compression ratio. Suitable for viewing on a computer screen. (Default setting)
★ Good	Highest compression ratio. Suitable for attaching to e-mails or posting on websites.

- 1 Use the four-way controller (▲▼) to select [Quality Level] in the [📷 Rec. Mode] menu.**
- 2 Press the four-way controller (▶).**
A pull-down menu appears.
- 3 Use the four-way controller (▲▼) to choose the quality level.**
The maximum number of still pictures you can take is displayed at the top of the screen when you select a quality level.
- 4 Press the OK button.**
The setting is saved.



- In (Green) mode, the quality level is fixed at ★★.
- In (Time-Lapse Movie), (Movie) or (High Speed Movie) mode, the quality level is fixed at ★★★.

Setting the White Balance

You can take pictures in natural colors by adjusting the white balance according to the light conditions at the time of shooting.

AWB Auto	The camera adjusts the white balance automatically. (Default setting)
Daylight	For use when taking pictures in sunlight
Shade	For use when taking pictures in the shade
Tungsten Light	For use when taking pictures under light bulb or other tungsten light

 D Daylight Colors Fluorescent	For use when taking pictures under fluorescent light
 N Daylight White Fluorescent	
 W White Light Fluorescent	
 Manual	For use when adjusting the white balance manually



- Set another white balance if you are not satisfied with the color balance of pictures taken with the white balance set to **AWB**.
- Depending on the selected shooting mode, the white balance setting may not be changed. Refer to “Functions Available for Each Shooting Mode” (p.196) for details.

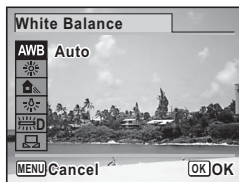
1 Use the four-way controller (▲▼) to select [White Balance] in the [Rec. Mode] menu.

2 Press the four-way controller (▶).
The [White Balance] screen appears.

3 Use the four-way controller (▲▼) to change the setting.

You can check the result of selected white balance setting on the preview image each time you press the four-way controller (▲▼).

To select a type of fluorescent lighting, select an icon for the fluorescent light and press the four-way controller (▶) and then use the four-way controller (▲▼) to select a type of lighting.



4 Press the OK button.
The setting is saved.

Saving the White Balance setting p.116

To Set the White Balance Manually

Have a blank sheet of white paper or similar material ready.

- 1** In the [White Balance] screen, use the four-way controller (▲▼) to select .
- 2** Point the camera at the blank sheet of paper or other material so that it fills the frame displayed in the center of the screen.
- 3** Press the shutter release button fully.
The white balance is automatically adjusted.
- 4** Press the OK button.
The setting is saved and the [ Rec. Mode] menu reappears.

Setting the AE Metering

You can set the area of the screen where the brightness is metered to determine the exposure.

 Multi-segment	The camera divides the image into 256 areas, meters the brightness and determines the exposure.
 Center-weighted	The camera takes a reading of the overall brightness of the image with the center of the image having more influence on the exposure.
 Spot	The camera determines the exposure by metering the brightness only at the center of the image.

- 1** Use the four-way controller (▲▼) to select [AE Metering] in the [ Rec. Mode] menu.
- 2** Press the four-way controller (▶).
A pull-down menu appears.
- 3** Use the four-way controller (▲▼) to select a metering method.
- 4** Press the OK button.
The setting is saved.



- When the shutter release button is pressed halfway, the brightness is metered and the exposure is determined.
- When the subject is outside the focusing area and you want to use , aim the camera at the subject and press the shutter release button halfway to lock the exposure, then compose your picture again and press the shutter release button fully.
- Depending on the selected shooting mode, the AE metering setting may not be changed. Refer to “Functions Available for Each Shooting Mode” (p.196) for details.

Setting the Sensitivity

You can select the sensitivity to suit the brightness of the surroundings.

AUTO	The sensitivity is automatically adjusted by the camera.
100	 The lower the sensitivity, the less noise that affects the image. The shutter speed will be slower in low light conditions.
200	
400	
800	
1600	 Higher sensitivity settings use faster shutter speeds in low light conditions to reduce camera shake, but the image may be affected by noise.
3200	
6400	

1 Use the four-way controller ( ) to select [Sensitivity] in the [ Rec. Mode] menu.

2 Press the four-way controller ().

A pull-down menu appears.

3 Use the four-way controller ( ) to change the sensitivity.

4 Press the OK button.

The setting is saved.



- When set to (👤) (Digital SR), (●) (Green), (📹) (Time-Lapse Movie), (📹) (Movie) or (📹) (High Speed Movie) mode, only [AUTO] is available.
- When set to (💣) (Fireworks) mode, the sensitivity is fixed to the minimum value.
- In **M** (Manual Exposure) mode, you cannot select [AUTO].
- When [Highlight Correction] in [D-Range Setting] is set to ☒ (On), 200 is displayed as the sensitivity instead of 100.
- When [Shake Reduction] is set to [Dual], you cannot set the sensitivity to 3200 or 6400.

Saving the Sensitivity setting p.116

Setting the AUTO ISO Range

Set the sensitivity range when the sensitivity is set to [AUTO]. You can select it from among the following settings: 100-200, 100-400, 100-800, 100-1600, 100-3200, and 100-6400.

- 1 Use the four-way controller (▲▼) to select [AUTO ISO Range] in the [📷 Rec. Mode] menu.**
- 2 Press the four-way controller (▶).**
A pull-down menu appears.
- 3 Use the four-way controller (▲▼) to select the sensitivity adjustment range.**
- 4 Press the OK button.**
The setting is saved.



When [Highlight Correction] in [D-Range Setting] is set to ☒ (On), select from 200-400, 200-800, 200-1600, 200-3200, and 200-6400.

Compensating Flash Output

You can adjust the flash output.

1 Use the four-way controller (▲▼) to select [Flash Exp. Comp.] in the [📷 Rec. Mode] menu.

2 Use the four-way controller (◀▶) to select the exposure.

To brighten, select a positive (+) value. To darken, select a negative (–) value.

You can choose the exposure value in the range of –2.0 EV to +2.0 EV in increments of 1/3 EV.

Compensating for Brightness (D-Range Setting)

Expands the dynamic range and prevents bright and dark areas from occurring. [Highlight Correction] adjusts the bright areas when the image is too bright and [Shadow Correction] adjusts the dark areas when the image is too dark.

1 Use the four-way controller (▲▼) to select [D-Range Setting] in the [📷 Rec. Mode] menu.

2 Press the four-way controller (▶).

The [D-Range Setting] screen appears.

3 Use the four-way controller (▲▼) to select [Highlight Correction] or [Shadow Correction].

4 Use the four-way controller (◀▶) to select ☒ (On) or ☐ (Off).

The D-Range Setting icon appears on the display.

	When [Highlight Correction] is set to ☒
	When [Shadow Correction] is set to ☒
	When [Highlight Correction] and [Shadow Correction] are both set to ☒





When [Highlight Correction] is set to ☒, the minimum sensitivity is 200.

Setting the Shake Reduction

By using this function, you can correct camera shake during shooting. You can select the optical correction only (Sensor Shift) or both the optical and electronic correction (Dual). The default setting is [Sensor Shift].

Sensor Shift	For correcting camera shake optically only
Dual	For correcting camera shake both optically and electronically
Off	Neither optical nor electronic camera shake correction is performed.

1 Use the four-way controller (▲▼) to select [Shake Reduction] in the [Rec. Mode] menu.

2 Press the four-way controller (▶).
A pull-down menu appears.

3 Pres the OK button.
The setting is saved.



- In (Green) mode, the setting is fixed to [Sensor Shift].
- [Dual] cannot be set in the following situations:
 - when (Fireworks), (Digital SR), (Digital Wide), (Digital Panorama) or (Frame Composite) is selected as the capture mode
 - when the sensitivity is set to 3200 or 6400
 - when (Self-timer), (Continuous Shooting), (Burst Shooting(L)), (Burst Shooting(H)), (Remote Control), (0-sec Remote Control) or (Auto Bracketing) is selected as the drive mode
 - when the flash is activated
 - when the picture is taken without pressing the shutter release button halfway
- For correcting camera shake in (Movie) or (Time-Lapse Movie) mode, use the Movie SR function (p.114).
- When [Dual] is set, the optical correction is used whenever the camera can correct shaking optically.

Switching the Face Detection Function

The Face Detection function locates faces in the frame and automatically adjusts the focus and exposure for those faces. You can change the setting of the function so that the camera will automatically release the shutter when one or more of the subjects smile. The default setting is [On] for [Face Detection].

On	The camera detects a person's face.
Smile	The camera automatically release the shutter when your subject smiles.
Off	The camera does not detect a person's face.

3

1 Use the four-way controller (▲▼) to select [Face Detection] in the [📷 Rec. Mode] menu.

2 Press the four-way controller (▶).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select an option.

4 Press the OK button.

The setting is saved.

The Face Detection icon appears on the display.

	When [Face Detection] is set to [On]
	When [Face Detection] is set to [Smile]



- Face Detection AF and AE may not work if the subject is wearing sunglasses, has part of their face covered or is not looking toward the camera.
- If the camera cannot detect the subject's face, the camera focuses using the setting currently selected in [Focusing Area].
- When [Face Detection] is set to [Smile], the shutter may not be released automatically because the Smile Capture function may not work in some situations, such as when the detected face is too small. If this happens, press the shutter release button to release the shutter.
- [Face Detection] cannot be set to [Off] in (Auto Picture), (Portrait), (Night Scene Portrait), or (Kids) mode.
- [Face Detection] is automatically set to [On] in (Green), (Auto Picture), (Portrait), (Night Scene Portrait), or (Kids) mode. When switching to another mode from one of these modes, the Face Detection setting returns to the previous setting.
- The Face Detection function is fixed to [On] in (Pet) mode.
- For movies, the Face Detection function is activated before recording starts. The face detection frame is not displayed while recording a movie.

Setting the Blink Detection Function

This specifies whether the Blink Detection function works when the Face Detection function is activated.

1

Use the four-way controller (▲▼) to select [Blink Detection] in the [Rec. Mode] menu.

2

Use the four-way controller (◀▶) to select ☒ or ☐.

- ☒ Blink Detection function works. (Default setting)
- ☐ Blink Detection function does not work.



- If the Blink Detection function worked when shooting, the message [Closed eyes have been detected] appears for 3 seconds during Instant Review.
- The Blink Detection function cannot be set in **HDR** (HDR Filter), (Digital Wide), (Digital Panorama), (Time-Lapse Movie), (Movie) or (High Speed Movie) mode.

Setting the Instant Review

Use this setting to specify whether to activate the Instant Review is displayed immediately after images are shot.

1 Use the four-way controller (▲▼) to select [Instant Review] in the [📷 Rec. Mode] menu.

2 Use the four-way controller (◀▶) to select ☒ or ☐.

☒ Instant Review is displayed. (Default setting)

☐ Instant Review is not displayed.

Instant Review p.60

Setting the Image Sharpness (Sharpness)

You can give the image sharp or soft outlines.

1 Use the four-way controller (▲▼) to select [Sharpness] in the [📷 Rec. Mode] menu.

2 Use the four-way controller (◀▶) to change the sharpness level.

Soft

Normal

Sharp

Setting the Color Saturation/Tone (Saturation/Tone Adjustment)

You can set either color brightness (Saturation) or the tone of monochrome images (Tone Adjustment).

The displayed items change depending on the setting in [Image Tone] of the [📷 Rec. Mode] menu.

Image Tone Setting	Displayed Item
Bright/Natural	Saturation
Monochrome	Tone Adjustment

- 1** Use the four-way controller (▲▼) to select [Saturation] (or [Tone Adjustment]) in the [📷 Rec. Mode] menu.
- 2** Use the four-way controller (◀▶) to select the level of saturation (or the tone of monochrome images).

	Saturation	Tone Adjustment
	Low	Blue
	Normal	B&W
	High	Sepia

Setting the Image Contrast (Contrast)

You can set the image contrast level.

- 1** Use the four-way controller (▲▼) to select [Contrast] in the [📷 Rec. Mode] menu.
- 2** Use the four-way controller (◀▶) to change the contrast level.
 - Low
 - Normal
 - High

Setting the Date Imprint Function

You can choose whether to imprint the date and/or time when taking still pictures.

- 1** Use the four-way controller (▲▼) to select [Date Imprint] in the [📷 Rec. Mode] menu.
- 2** Press the four-way controller (▶).
A pull-down menu appears.
- 3** Use the four-way controller (▲▼) to select the Date Imprint details.
Choose from [Date], [Date & Time], [Time] or [Off].

4

Press the OK button.

The setting is saved.



- The date and/or time imprinted with the Date Imprint function cannot be deleted.
- Note that if the printer or the image editing software is set to print the date and the images to be printed already have the date and/or time imprinted, the imprinted dates and/or times may overlap.



- **DATE** appears on the display in still picture capture mode when [Date Imprint] is set.
- The date and/or time are imprinted on the picture with the date format style set with "Setting the Date and Time" (p.41).

Setting the IQ Enhancer Processing

You can take pictures with clearer details by using image processing with IQ enhancer technique.

1

Use the four-way controller (▲▼) to select [IQ Enhancer] in the [Rec. Mode] menu.

2

Use the four-way controller (◀▶) to select ☒ or ☐.

- ☒ IQ Enhancer function works (Default setting)
- ☐ IQ Enhancer function does not work



- [IQ Enhancer] is fixed at ☒ (On) in **Green** mode.
- [IQ Enhancer] is fixed at ☐ (Off) in the following situations:
 - when **Digital Panorama**, **WIDE** (Digital Wide), **Handheld Night Snap**, **HDR** (HDR Filter) or **High Speed Movie** is selected as the capture mode
 - when **Continuous Shooting**, **Burst Shooting(L)** or **Burst Shooting(H)** is selected as the drive mode

Setting the Green Button

You can assign either [Green Mode] (p.62) or [Fn Setting] to the Green button. You can activate the assigned function by just pressing the Green button.

Green Mode	Press the Green button to shoot in  (Green) mode. (Default setting)
Fn Setting	Press the Green button to use the functions assigned to the four-way controller (   ). By assigning frequently used functions to the four-way controller, you can easily change the settings during shooting. The functions that can be set differ depending on the capture mode used before the MENU button is pressed. • When you press the MENU button in still picture capture mode: Still picture capture functions are assigned. • When you press the MENU button in movie recording mode: Movie recording functions are assigned.

Default settings of Fn Setting

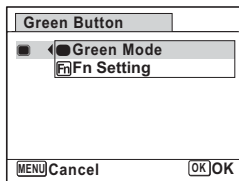
Four-way Controller	Still Picture Mode	Movie Mode
	Recorded Pixels	Movie SR
	Quality Level	Recorded Pixels
	White Balance	White Balance
	Sensitivity	Focusing Area

1 Use the four-way controller ( ) to select [Green Button] in the [ Rec. Mode] menu.

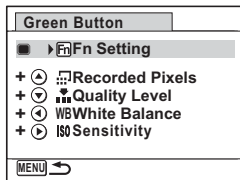
2 Press the four-way controller ().
The [Green Button] screen appears.

3 Use the four-way controller ( ) to select the function you want to register.

- When [Green Mode] is selected, press the **OK** button to save the setting.
- When [Fn Setting] is selected, press the **OK** button to display the Fn Setting screen.



- 4 Use the four-way controller (▲▼) to select a key to which to assign a function.**

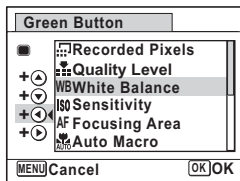


Fn Setting screen

- 5 Press the four-way controller (▶). A pull-down menu appears.**

- 6 Use the four-way controller (▲▼) to select the function you want to register.**

The following functions can be registered.



Still picture mode functions	Recorded Pixels/Quality Level/White Balance/Sensitivity/Focusing Area/Auto Macro/AE Metering/Highlight Correction/Shadow Correction/Sharpness/Saturation (Tone Adjustment)* ¹ /Contrast
Movie mode functions	Recorded Pixels/Movie SR/White Balance/Focusing Area/Sharpness/Saturation (Tone Adjustment)* ¹ /Contrast

*¹ When [Bright] or [Natural] is selected for [Image Tone] in the [Rec. Mode] menu, [Saturation] is displayed, and when [Monochrome] is selected, [Tone Adjustment] is displayed.

- 7 Press the OK button.**

The setting is saved.

Repeat Steps 4 to 7 to register other keys.



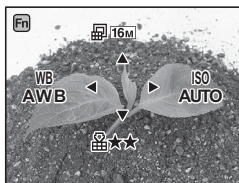
Only one function can be registered to each key.

1 Press the Green button in mode.

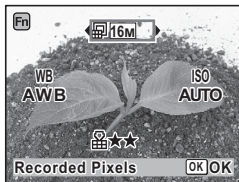
The functions registered with [Fn Setting] on the Fn Setting screen appear.

The displayed functions differ depending on whether the camera is in still picture mode or movie mode before the Green button is pressed.

2 Select the four-way controller (▲▼◀▶) to which the function you want to change is registered.



3 Use the four-way controller (▲▼ or ◀▶) to change the setting.

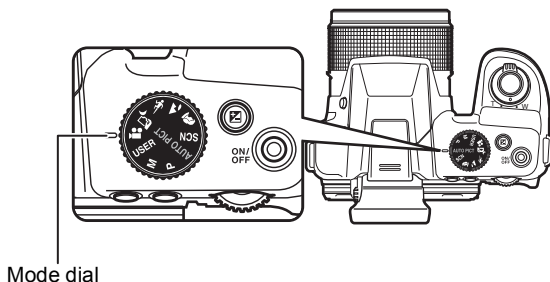


4 Press the OK button.

The setting is saved and the camera returns to capture status.

Recording Movies

You can switch to the movie recording mode by setting the  icon on the mode dial to the dial indicator.



Selecting the Movie Mode

There are three movie recording modes. Choose your desired mode.

Modes	Characteristics
 Time-Lapse Movie	Captures frames for fast motion playback.
 Movie	For recording movies
 High Speed Movie	Captures frames for slow motion playback.

1 Set the mode dial to .

The camera enters the movie mode last selected. The default setting is  (Movie).

2 Press the four-way controller (.

The Movie Mode Palette appears.

Use the four-way controller (◀ ▶) to choose a movie mode.

When an icon is selected in the Movie Mode Palette, the guide for the selected movie mode appears.



Movie Mode Palette



You can turn the guide display off for each mode on the Movie Mode Palette (p.178).

Press the OK button.

The movie mode is selected, and the camera is ready for recording movies.

The selected movie mode is saved and retrieved when the mode dial is set to .



Cautions for (Time-Lapse Movie), (Movie) and (High Speed Movie) in common

- The flash cannot be used.
- Select the focus mode before recording starts. The focus mode cannot be changed during recording.
- The focus can be adjusted manually before recording starts if the focus mode is set to **MF**. The focus cannot be adjusted during recording.
- The monitor display cannot be switched using the **DISP** button during movie recording.
- When the mode dial is set to , the Face Detection function is automatically set to [On]. If you want to set it to [Smile] or [Off], change the setting in the [ Rec. Mode] menu before movie recording starts (p.100).
- When the Face Detection function is set to [Smile] and the focus mode is set to **AF** or , movie recording starts automatically when the camera detects the subject's smile. However, depending on the condition of the detected faces, movie recording may not start automatically, because the Smile Capture function may not work. If this happens, press the shutter release button to start recording a movie.

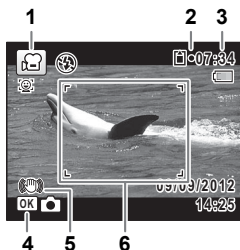
Recording a Movie

This mode enables you to record movies. Sound is recorded at the same time.

1 Use the four-way controller (◀▶) to select (Movie) from the Movie Mode Palette.

The following information appears on the display.

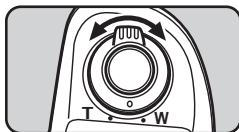
- 1 Movie mode icon
- 2 Recording indicator (blinks during recording)
- 3 Remaining recordable time
- 4 Still picture recordable icon (appears during movie recording)
Press the **OK** button to capture a still picture while the icon is displayed.
- 5 Movie Shake Reduction icon
- 6 Focus frame (does not appear during recording)



You can change the captured area by turning the zoom lever to the left or right.

Right (**T**) Enlarges the subject.

Left (**W**) Widens the area that is captured by the camera.



2 Press the shutter release button fully.

Recording starts.

You can continue recording for up to 25 minutes.

Saving a still picture during movie recording

- If you press the **OK** button during movie recording, a still picture is captured at the moment you pressed the button (up to three still pictures per each continuous movie recording, with the focus fixed at the start of recording and the number of recorded pixels fixed to **16M**). The captured still picture will be saved when the movie recording is stopped.
- The angle of view may change, depending on the number of recorded pixels for movies.

- The image may be distorted, depending on recording conditions.

3

Press the shutter release button fully.

Recording stops.



Only Digital Zoom is available during recording. If you want to record within the optical zoom range, operate the zoom before recording. Intelligent Zoom cannot be used.

Playing Back Movies p.119

3

Taking Pictures

Keeping the Shutter Release Button Pressed

If you keep the shutter release button pressed for one second or more, recording will continue as long as you keep the button pressed.

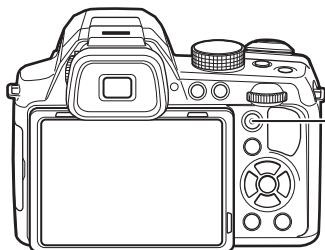
Recording stops when you take your finger off the shutter release button.

Recording a Movie Quickly Using the Movie button

This camera starts/stops movie recording simply by pressing the Movie button, without setting the mode dial to . This is useful when you want to start recording quickly.



- The Movie button functions only in still picture capture mode. It cannot be used in movie mode or mode.
- The shutter release button is disabled when recording started with the Movie button.



Movie button

1 Press the Movie button.

Recording starts.

2 Press the Movie button.

Recording stops.



- When recording starts using the Movie button, the number of recorded pixels is fixed to 1920 × 1080 and the frame rate 30fps.
- The recorded area of a movie becomes smaller, both horizontally and vertically, than the image displayed on the monitor display before recording.

Using the Time-Lapse Movie Function

You can capture frames for fast motion playback.

1 Use the four-way controller (◀▶) to select [Time-Lapse Movie] from the Movie Mode Palette.

2 Press the OK button.

The camera returns to capture status.

3 Press the shutter release button fully.

Recording starts.

The maximum length of continuous recording time for Time-Lapse Movie is 25 minutes.

4 Press the shutter release button fully.

Recording stops.



- The number of recorded pixels is fixed to 640 × 480 and the frame rate 15fps.
- Zoom is not available during recording.

Using the High Speed Movie Function

You can capture frames for slow motion playback.

1 Use the four-way controller (◀▶) to select [ High Speed Movie] from the Movie Mode Palette.

2 Press the OK button.

The camera returns to capture status.

3 Press the shutter release button fully.

Recording starts.

The maximum length of continuous recording time for High Speed Movie is 15 seconds.

4 Press the shutter release button fully.

Recording stops.



- The number of recorded pixels is fixed to 640 × 480 and the frame rate 120fps.
- [Movie SR] (Movie Shake Reduction) is fixed to ☐ (Off).

Setting the [Movie] Menu

1 Press the MENU button in movie mode.

The [ Movie] menu appears.

2 Use the four-way controller (▲▼) to select an item and change its setting.

3 Press the MENU button after changing the setting.

The setting is saved and the camera returns to capture status.

Selecting the Number of Recorded Pixels and Frame Rate for Movies

In  mode, you can choose the number of recorded pixels and frame rate for movies.

The more pixels there are, the clearer the details and the bigger the file size. The more frames per second, the better the quality of the movie, but the file size becomes larger.

Settings	Recorded Pixels	Frame Rate	Use
	1920×1080	30fps	Records images in full HD format (16:9). Movement is recorded smoothly. (Default setting)
	1280×720	60fps	Records images in HDTV format (16:9). Quick movement is recorded smoothly.
	1280×720	30 fps	Records images in HDTV format (16:9). Movement is recorded smoothly.
	640×480	30 fps	Suitable for viewing on a TV or computer screen. Movement is recorded smoothly.

* The frame rate (fps) indicates the number of frames per second.

- 1 Use the four-way controller (▲▼) to select [Recorded Pixels] in the [ Movie] menu.**
- 2 Press the four-way controller (▶).**
A pull-down menu appears.
- 3 Use the four-way controller (▲▼) to select the number of recorded pixels and the frame rate.**
- 4 Press the OK button.**
The setting is saved.

Setting the Movie SR (Movie Shake Reduction) Function

In  (Movie) or  (Time-Lapse Movie) mode, you can correct camera shake during movie recording with the Movie SR (Movie Shake Reduction) function.

- 1** Use the four-way controller (▲▼) to select [Movie SR] in the [ Movie] menu.
- 2** Use the four-way controller (◀▶) to select ☒ or ☐.

- ☒ Automatically corrects camera shake. (Default setting)
- ☐ Does not correct camera shake.

The setting is saved.

Suppressing Wind Noises during Movie Recording (Wind Suppression)

You can reduce wind noises during movie recording.

- 1** Use the four-way controller (▲▼) to select [Wind Suppression] in the [ Movie] menu.
- 2** Use the four-way controller (◀▶) to select ☒ or ☐.

- ☒ Suppresses wind noises.
- ☐ Does not suppress wind noises (Default setting).

Saving the Settings (Memory)

The Memory function is for saving the current camera settings when the camera is turned off.

For some camera settings, the Memory function is always set to ☒ (On) (the settings are saved when the camera is turned off), while for others you can choose ☒ or ☐ (Off) (to choose whether the settings are saved or not when the camera is turned off). The items which can be set to ☒ or ☐ in the Memory function are shown in the table below. (Items not listed here are always saved in the selected settings when the camera is turned off.)

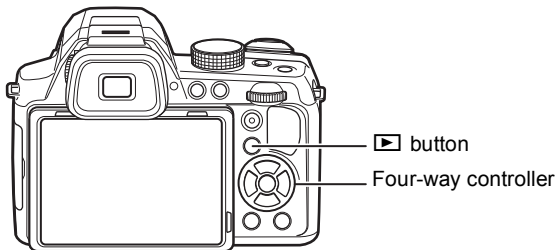
If you select ☒, the settings will be saved in the status they were in immediately before the camera was turned off. If you select ☐, the settings will be reset to the defaults when the camera is turned off. The table below also shows whether the Memory default setting for each item is ☒ or ☐.

Item	Description	Default Settings	Page
Face Detection	The [Face Detection] setting in the [📷 Rec. Mode] menu	☐	p.100
Flash Mode	The flash mode set with the four-way controller (◀)	☒	p.82
Drive Mode	The drive mode set with the four-way controller (▲)	☐	p.84
Focus Mode	The focus mode set with the four-way controller (▶)	☐	p.86
Zoom Position	The zoom position set with the zoom lever	☐	p.64
MF Position	The manual focus position set with the four-way controller (▲▼)	☐	p.87
White Balance	The [White Balance] setting in the [📷 Rec. Mode] menu	☐	p.93
Sensitivity	The [Sensitivity] setting in the [📷 Rec. Mode] menu	☐	p.96
EV Compensation	The EV Compensation setting	☐	p.66
AE Metering	The [AE Metering] setting in the [📷 Rec. Mode] menu	☐	p.95
Digital Zoom	The [Digital Zoom] setting in the [📷 Rec. Mode] menu	☒	p.66

DISPLAY	The information display mode selected with the DISP button	☐	p.22
File No.	If a new SD Memory Card is inserted when ☒ (On) has been selected, file numbers are assigned sequentially	☒	—

- 1** Use the four-way controller (▲ ▼) to select [Memory] in the [📷 Rec. Mode] menu.
- 2** Press the four-way controller (▶).
The [Memory] screen appears.
- 3** Use the four-way controller (▲ ▼) to choose an item.
- 4** Use the four-way controller (◀ ▶) to select ☒ or ☐.

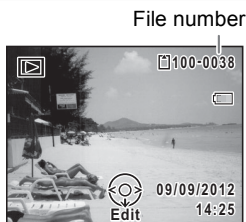
Playing Back Still Pictures



4

1 Press the ▶ button after taking a picture.

The camera enters ▶ mode and the captured image appears on the display (Single-image display).



2 Press the four-way controller (◀▶).

The previous or next image appears.

To Delete the Displayed Image

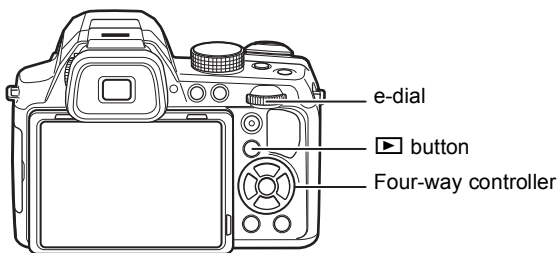
Press the button while the image is displayed to display the Delete screen. Press the four-way controller (▲) to select [Delete] and press the **OK** button.



For information on other deletion procedures p.129

Playing Back Movies

You can play back the movies you have taken. The sound is played back at the same time.



1 In  mode, use the four-way controller (◀▶) to choose the movie you want to play back.

2 Press the four-way controller (▲).
Playback starts.



Available operations during playback

e-dial to the right (Q)	Increases the volume.
e-dial to the left (Q)	Reduces the volume.
Four-way controller (▲)	Pauses playback.
Four-way controller (▶)	Fast-forwards playback while the button is held down.
Four-way controller (◀)	Fast-reverses playback while the button is held down.

Available operations while playback is paused

Four-way controller (▲)	Resumes playback.
Four-way controller (▶)	Forwards the frame.
Four-way controller (◀)	Reverses the frame.* ¹

*¹ Every 30 frame is the first frame for reversing frame. For example, when you reverse frame at 1 to 31, the frame reverses to the first frame and when you reverse frame at 32 to 61, the frame reverses to the 31st frame.

Press the four-way controller (▼).

Playback stops.

Multi-Image Display

Four-Image Display/Nine-Image Display

You can display four or nine thumbnails of captured images at a time.

1

In mode, turn the e-dial to the left (◀).

The four-image display appears showing a page consisting of four thumbnail images. Turn the e-dial to the left (◀) again to switch to the nine-image display.

A page consisting of four or nine thumbnail images appears. The displayed images change four or nine images at a time page by page.

Use the four-way controller (▲▼◀▶) to move the frame. If there are too many images to display on one page, pressing the four-way controller (▲◀) while the image ① is selected will display the previous page. Similarly, if you choose image ② and press the four-way controller (▼▶), the next page appears.

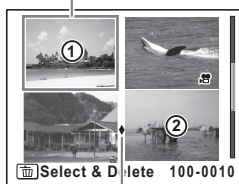
◆ (Folder divider icon) indicates that the previous or next image is stored in a separate folder.

The icons that appear on the images indicate the following:

(No icon)	Still picture
	Movie (the first frame appears)
	Time-Lapse Movie (the first frame appears)
	High Speed Movie (the first frame appears)

Four-Image Display

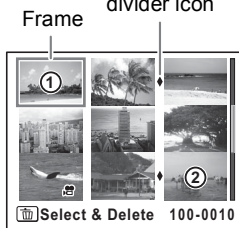
Frame



Folder divider icon

Nine-Image Display

Folder divider icon



Press the **OK** button to switch to single-image display of the selected image.

Press the  button to switch to  mode.

Folder Display/Calendar Display

In nine-image display, turn the e-dial to the left () to switch to folder display or calendar display. Press the Green button to switch between folder display and calendar display.

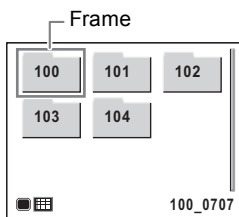
1 In mode, turn the e-dial to the left () three times.

The screen changes to folder display or calendar display.

Folder display

The list of folders with recorded images appears.

Four-way controller (   )	Moves the frame.
e-dial to the right () / OK button	Displays the images in the selected folder in nine-image display.
MENU button	Returns to nine-image display.
Green button	Switches to calendar display.

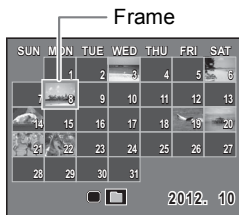


Calendar display

Images are displayed by date in calendar format.

The thumbnail of the first image recorded on each date is displayed on the calendar.

Four-way controller (   )	Moves the frame.
e-dial to the right ()	Displays the images recorded on the selected date in nine-image display.
OK button	Displays the first image recorded on the selected date in single-image display.



MENU button	Returns to nine-image display.
Green button	Switches to folder display.

Using the Playback Function

- 1 Press the four-way controller (▼) in  mode.**

The Playback Mode Palette appears.

- 2 Use the four-way controller (▲▼◀▶) to choose an icon.**

The guide for the selected function appears below.



- 3 Press the OK button.**

The selected playback function is called up.



You can turn the guide display off for each function on the Playback Mode Palette (p.178).

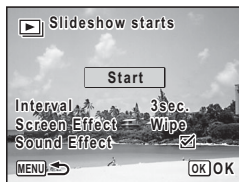
Playback Mode Palette

Playback Mode		Description	Page
	Slideshow	For continuously playing back images. Screen or sound effects can be set.	p.124
	Image Rotation	Rotates captured images. Useful when viewing vertical images on a TV.	p.126
	Stretch Filter	Stretches or elongates a user-selected area of images (4:3 to 16:9).	p.139
	Small Face Filter	Reduces the size of faces in the image, for well-proportioned portraits.	p.140
	Collage	Creates a collage print page from saved image files	p.145
	Digital Filter	For modifying images with a Color filter or Soft filter.	p.142
HDR	HDR Filter	Processes single image to simulate HDR effect	p.145
	Frame Composite	For composing an image with a frame. Select Overwrite or Save as to save.	p.150
	Save as Still Image	For saving one frame from a movie as a still picture.	p.153
	Divide Movies	For dividing a movie into two.	
	Adding title picture	For adding a title picture to your movie	
	Red-eye Edit	Attempts to edit out the red-eye effect in image. Success may vary.	p.149
	Resize	Changes Recorded Pixels and Quality Level to make the file size smaller.	p.137
	Cropping	For cropping images to the size you like. Saved as a new image.	p.138
	Image Copy	To copy images between the built-in memory and an SD Memory Card.	p.156
	Protect	Protects images from delete function. Format function still erases all.	p.131
	DPOF	For the print settings. Useful when printing at a printing service.	p.159
	Start-up Screen	For setting a captured image as the Start-up Screen.	p.179

Slideshow

You can play back recorded images one after another.

- 1** In  mode, use the four-way controller (◀▶) to choose the image to start the slideshow with.
- 2** Use the four-way controller (▲▼◀▶) to select  (Slideshow) from the Playback Mode Palette.
- 3** Press the **OK** button.
The slideshow setting screen appears.
- 4** Use the four-way controller (▲▼) to select [Start].



- 5** Press the **OK** button.
The slideshow starts.
Pressing the **OK** button during the slideshow pauses the slideshow.
To resume the slideshow, press the **OK** button again.
- 6** Press any button other than the **OK** button.
The slideshow stops.

To Set the Slideshow Conditions

You can set the playback interval and also a screen effect and sound effect for when one image changes to the next.

1 Use the four-way controller (▲▼) to select [Interval] in Step 4 on p.124.

2 Press the four-way controller (▶).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select the interval and press the OK button.

Choose from [3sec.], [5sec.], [10sec.], [20sec.] or [30sec.].

4 Use the four-way controller (▲▼) to select [Screen Effect].

5 Press the four-way controller (▶).

A pull-down menu appears.

6 Use the four-way controller (▲▼) to choose the screen effect and press the OK button.

Wipe	The next image slides over the previous one from left to right
Checker	The next image appears in small square mosaic blocks
Fade	The current image gradually fades out and the next image fades in
Random	Various effects are used randomly
Off	No effect

7 Use the four-way controller (▲▼) to select [Sound Effect].

8 Use the four-way controller (◀▶) to select ☒ (On) or ☐ (Off).

Except when [Screen Effect] is set to [Off] or [Random], you can choose ☒ or ☐ for the sound that is played when one image changes to the next.

9 Use the four-way controller (▲▼) to select [Start] and press the OK button.

The slideshow starts using the selected interval and effect.



- The slideshow will continue until you press any button other than the **OK** button.
- Movies will be played through to the end before the next picture is played back, regardless of the interval setting. However, pressing the four-way controller (▶) while playing back a movie skips to the next image.
- When [Random] is selected for the screen effect, the interval is fixed and the sound effect is set to □ (off).
- Panorama images will be scrolled for display from left to right in 4 seconds before the next picture is played back, regardless of the interval or screen effect setting.

Connecting the Camera to AV Equipment p.134

Rotating the Image

1 Press the button after taking a picture.

The image appears on the display.

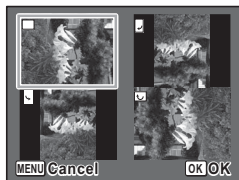
2 Use the four-way controller (▲▼◀▶) to select (Image Rotation) from the Playback Mode Palette.

3 Press the OK button.

The rotation selection screen (0°, Right 90°, Left 90°, or 180°) appears.

4 Use the four-way controller (▲▼◀▶) to choose the rotation direction and press the OK button.

The rotated image is saved.





- Images taken at ■■■ (Digital Panorama) mode and movies cannot be rotated.
- Protected images can be rotated, but they cannot be saved in a rotated state.

Zoom Playback

You can magnify an image up to ten times.

- 1** In mode, use the four-way controller (◀▶) to choose the image you want to magnify.
- 2** Turn the e-dial to the right (Q), or turn the zoom lever to the right (T).

The image is magnified ($\times 1.1$ to $\times 10$).

Continuing to turn the e-dial to the right (Q) changes the magnification continuously.

Holding the zoom lever turned to the right (T) also changes the magnification continuously.

You can use the guide mark “+” that appears at the bottom left of the screen to check which portion of the image is magnified.

Available operations while an image is magnified

Four-way controller (▲▼◀▶)	Moves the position to be magnified
e-dial to the right (Q) / Zoom lever to the right (T)	Makes the image larger (max. $\times 10$)
e-dial to the left (W) / Zoom lever to the left (W)	Makes the image smaller (min. $\times 1.1$)



Guide

- 3** Press the OK button.

The image returns to single-image display.



- When [Quick Zoom] (p.178) is set to ☒ (On), you can magnify the image at 10x by simply rotating the e-dial to the right (Q) once or turning the zoom lever to the right (T) once.
- Movies cannot be magnified.

Deleting Images

You can delete images that you do not want to keep.

Deleting a Single Image

You can delete a single image.



Protected images cannot be deleted (p.131).

1 In  mode, use the four-way controller (◀▶) to choose the image you want to delete.

2 Press the  button.
A confirmation screen appears.

3 Press the four-way controller (▲) to select [Delete].



4 Press the OK button.
The image is deleted.

Deleting Selected Images

You can delete several images selected from the four-/nine-image display at once.



Protected images cannot be deleted (p.131).

1 In  mode, turn the e-dial to the left () once or twice.
Four-image display or nine-image display appears.

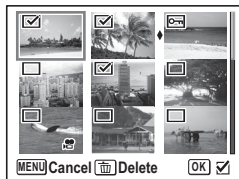
- 2 Press the  button.**
A frame appears on the image.



- 3 Use the four-way controller (   ) to choose the images that you want to delete and press the OK button.**

 appears on the selected images.

Turn the e-dial to the right () to display the selected image in a single screen and check whether you want to delete it or not. Turning to the left returns to four/nine-image display. However, protected images cannot be displayed in single-image display.



- 4 Press the  button.**
A confirmation dialog appears.

- 5 Press the four-way controller () to select [Select & Delete].**



- 6 Press the OK button.**
The selected images are deleted.

Deleting All Images

You can delete all the images at once.



Protected images cannot be deleted (p.131).

- 1** Press the **MENU** button in  mode.
- 2** Use the four-way controller (**▲ ▼**) to select **[Delete All]** in the **[↶ Setting]** menu.
- 3** Press the four-way controller (**▶**).
The **[Delete All]** screen appears.
- 4** Press the four-way controller (**▲**) to select **[Delete All]**.
- 5** Press the **OK** button.
All the images are deleted.

Protecting Images from Deletion (Protect)

You can protect stored images from being accidentally deleted.

- 1** In  mode, use the four-way controller (**◀ ▶**) to choose the image you want to protect.
- 2** Use the four-way controller (**▲ ▼ ◀ ▶**) to select **On** (Protect) from the Playback Mode Palette.
- 3** Press the **OK** button.
The screen for selecting **[Single Image]** or **[All Images]** appears.
- 4** Use the four-way controller (**▲ ▼**) to select **[Single Image]**.



5 Press the OK button.

The message [Protects this image] appears.

To protect another image, use the four-way controller (◀▶) to select another image.

6 Use the four-way controller (▲▼) to select [Protect].



7 Press the OK button.

The selected image is protected and the screen shown in Step 4 reappears.

To protect other images, repeat Steps 4 to 7. Select [Cancel] to exit the Protect setting.



- To cancel the protection of the image, select [Unprotect] in Step 6.
-  appears on the protected images during playback.
- The maximum number of images you can protect in succession with [Single Image] is 99.

To Protect All Images

- 1** Select [All Images] in Step 4 on p.131.



- 2** Press the OK button.

- 3** Use the four-way controller (▲▼) to select [Protect].



- 4** Press the OK button.

All the images are protected and the screen shown in Step 1 reappears.

- 5** Use the four-way controller (▲▼) to select [Cancel] and press the OK button.

The Playback Mode Palette reappears.



Protected images will be deleted when the SD Memory Card or the built-in memory is formatted (p.162).



To cancel the protection of all your images, select [Unprotect] in Step 3.

Connecting the Camera to AV Equipment

By connecting the camera to a TV or other equipment with a video input terminal or HDMI terminal, you can play back images.



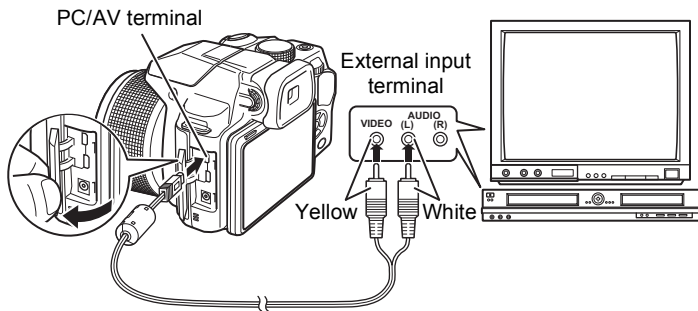
- If you intend to use the camera continuously for a long period, use of the AC adapter kit K-AC129 (optional) is recommended (p.32).
- For AV equipment with multiple video input terminals, check the operating manual of the AV equipment, and select the video input terminal to which the camera is connected.
- You cannot output a composite and HDMI video signal at the same time.
- You cannot adjust the volume on the camera when connected to AV equipment. Adjust the volume on the AV equipment.

4

Connecting the Camera to a Video Input Terminal

Use the optional AV cable (I-AVC7) to connect the camera to equipment with a video input terminal.

- 1 Turn the AV equipment and camera off.**
- 2 Open the terminal cover, face the arrow mark on the AV cable towards the ▲ mark on the camera, and connect the cable to the PC/AV terminal.**



3 Connect the other ends of the AV cable to the video input terminal and audio input terminal of the AV equipment.

When using stereo sound equipment, insert the sound terminal into the L (white) terminal.

4 Turn the AV equipment on.

When the equipment that the camera is connected to and the equipment that plays back images are different, turn both on.

When viewing images on AV equipment with multiple video input terminals (such as a TV), refer to the operation manual of the equipment and select the video input terminal to which the camera is connected.

5 Turn the camera on.



- The video output format differs depending on the region. When you set [Select Time] in the World Time setting (p.166) to ➔ (Destination), the video output setting changes to the video output format for that city.
- Depending on the country or region, images and sounds may fail to be played back if the video output format is set differently from the one in use there. If this happens, change the video output format setting (p.173).
- The camera display turns off and the volume cannot be adjusted by turning the zoom lever while the camera is connected to AV equipment.

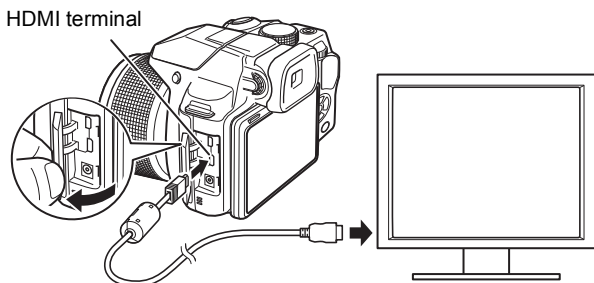


When connecting to and playing back images on AV equipment, image data is output at normal screen resolution. To view movies recorded at 1920, 1280 or 1280 in HDTV, transfer the data to a computer and play it back on the computer (p.184).

Connecting the Camera to an HDMI Terminal

Use a commercially available HDMI cable to connect the camera to equipment with an HDMI terminal.

- 1 Turn the AV equipment and camera off.**
- 2 Open the terminal cover and connect the HDMI cable to the HDMI terminal.**



- 3 Connect the other end of the HDMI cable to the HDMI terminal of the AV equipment.**

- 4 Turn the AV equipment and camera on.**

The camera information is displayed on the screen of the connected AV equipment.



- The camera has a Type D (Micro) HDMI terminal. Use a commercially available HDMI cable that matches your AV equipment.
- Nothing is displayed on the camera display during HDMI output.
- The HDMI output format is set to [Auto] by default. With this setting, the image is displayed in the largest resolution that the connected AV equipment or camera supports. You can change setting according to the output format of your AV equipment or camera (p.174).
- When the HDMI output format is set to [1080i] or [720p], the image is displayed with a 16:9 aspect ratio on the connected AV equipment or camera. The display may appear with a screen design that differs from that displayed on this camera.

Changing the Image Size (Resize)

By changing the recorded pixels and quality level of a selected image, you can make the file size smaller than the original. You can use this function to continue taking pictures when the SD Memory Card or the built-in memory is full, by making the images smaller and overwriting the original images to make more space available.



- Images taken with the recorded pixels of 12M / or at (Digital Panorama) mode, and movies cannot be resized.
- You cannot select a larger number of recorded pixels and/or a higher quality level (with more ★ symbols) than those of the original image.

1 In mode, use the four-way controller (◀▶) to choose the image you want to resize.

2 Use the four-way controller (▲▼◀▶) to select (Resize) from the Playback Mode Palette.

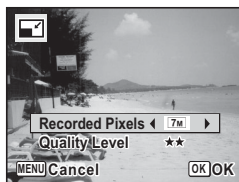
3 Press the OK button.

The screen for choosing the number of recorded pixels appears.

4 Select [Recorded Pixels] or [Quality Level].

Use the four-way controller (▲▼) to switch between [Recorded Pixels] and [Quality Level].

Use the four-way controller (◀▶) to choose the recorded pixels and quality level.



5 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

- 6 Use the four-way controller (▲▼) to select [Overwrite] or [Save as].**
- 7 Press the OK button.**
The resized image is saved.

Cropping Images

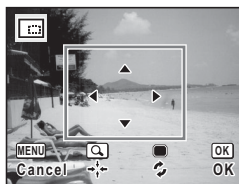
You can delete the unwanted part of a picture and save the cropped image as a new image.



Images taken with the recorded pixels of 12M / or at (Digital Panorama) mode, and movies cannot be cropped.

- 1 In mode, use the four-way controller (◀▶) to choose the image you want to crop.**
- 2 Use the four-way controller (▲▼◀▶) to select (Cropping) from the Playback Mode Palette.**
- 3 Press the OK button.**
The cropping screen appears.
The largest size of cropped image is shown with a green frame on the screen. The cropped image cannot be larger than this cropping frame size.
- 4 Choose the cropping area.**
Change the size and/or position of the cropping frame by the following operations.

e-dial	Changes the size of the cropping frame.
Four-way controller (▲▼◀▶)	Moves the cropping frame up, down, left and right.
Green button	Rotates the cropping frame. The button is displayed only when the cropping frame can be rotated.



5 Press the OK button.

The cropped image is saved with a new file name.

The number of recorded pixels is selected automatically according to the size of the cropped image.

Stretching a User-Selected Area of an Image (Stretch Filter)

You can stretch a user-selected area of a 4:3 image and store it as a 16:9 image.

1 In  mode, use the four-way controller (◀▶) to choose the image you want to edit.

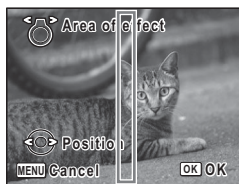
2 Use the four-way controller (▲▼◀▶) to select  (Stretch Filter) from the Playback Mode Palette.

3 Press the OK button.

The message [Specify the position and area of effect for stretch] appears and the adjustment screen is displayed.

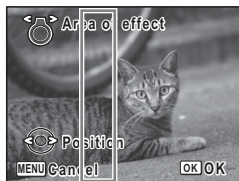
4 Use the four-way controller (◀▶) to move the position for stretching.

Four-way controller (◀)	Moves the position for stretching left.
Four-way controller (▶)	Moves the position for stretching right.



5 Turn the zoom lever left or right to adjust the area of effect for stretching.

Zoom lever to the left (W)	Makes the area of effect narrower.
Zoom lever to the right (T)	Makes the area of effect wider.



6

Press the OK button.

A confirmation dialog for overwriting the image appears.

7

Use the four-way controller (▲▼) to select [Overwrite] or [Save as].

8

Press the OK button.

The stretched image is saved.

The number of recorded pixels of a new image becomes 12M 169 for an image taken with 16M, 5M 169 for an image taken with 7M, 4M 169 for an image taken with 5M, or 2M 169 for an image taken with a lower number of recorded pixels.



5

Processing Images to Make a Face Look Smaller

Images are processed to reduce the size of a person's face detected with the Face Detection function (p.100) when taking pictures so that the face looks smaller.

1

In mode, use the four-way controller (◀▶) to choose the image you want to edit.

2

Use the four-way controller (▲▼◀▶) to select (Small Face Filter) from the Playback Mode Palette.

3

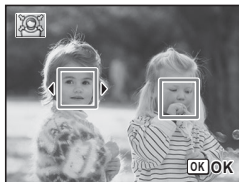
Press the OK button.

Face detection frames appear on the faces that can be processed. Proceed to Step 6 when there is only one detection frame.

4

Use the four-way controller (▲▼◀▶) to select a face to be processed.

A green frame indicates the face that is to be processed.



5

Press the OK button.

6 Use the four-way controller (◀▶) to change the reduction ratio.

- · + Approx. 5 %
- ■ + Approx. 7 %
- ■ + Approx. 10 %



7 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

8 Use the four-way controller (▲▼) to select [Overwrite] or [Save as].

9 Press the OK button.

The camera returns to  mode and the processed image is displayed.



You may not be able to process images in the following situations:

- When the size of face taken in relation to an image is too large or too small
- When a face is not in the center of an image

Using the Digital Filters

This function lets you change the color tones and perform special processing on the selected image.

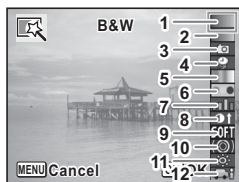
B&W	Processes the image into one that has the look of a black and white photograph.
Sepia	Processes the image into one that has the look of a sepia photograph.
Toy Camera	Processes the image that looks as though it was shot with a toy camera.
Retro	Processes the image into one that has the look of an old photo.
Color	Processes the image using the selected color filter. You can choose from six filters: red, pink, purple, blue, green, and yellow.
Extract Color	Extracts only a specific color and processes the rest of the image into black and white. You can choose from three filters: red, green, and blue.
Color Emphasis	There are four filters: Sky Blue/Fresh Green/Delicate Pink/Autumn Leaves.
High Contrast	Adjusts the contrast of the captured images.
Soft	Processes the image into one that appears soft overall.
Fish-eye	Creates an image that looks as though it was shot with a fish-eye lens.
Brightness	Adjusts the brightness of the image.
Miniature	Blurs part of the image to create a fake miniature scene.



Movies and images taken at  (Digital Panorama) mode, or with another camera cannot be processed using the Digital Filter function.

- 1** In  mode, use the four-way controller (◀▶) to choose the image you want to edit.
- 2** Use the four-way controller (▲▼◀▶) to select  (Digital Filter) from the Playback Mode Palette.
- 3** Press the OK button.
The filter selection screen appears.

- 1 B&W
- 2 Sepia
- 3 Toy Camera
- 4 Retro
- 5 Color
- 6 Extract Color
- 7 Color Emphasis
- 8 High Contrast
- 9 Soft
- 10 Fish-eye
- 11 Brightness
- 12 Miniature



Subsequent steps vary depending on your selection.

To Select a B&W, Sepia or Soft Filter

- 4 Use the four-way controller (▲▼) to choose a filter.**

The preview image of the result of the filter effect appears.

- 5 Press the OK button.**

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

- 6 Use the four-way controller (▲▼) to select [Overwrite] or [Save as].**

- 7 Press the OK button.**

The image processed with the filter is saved.

To Select a Retro, Color, Extract Color or Color Emphasis Filter

- 4 Use the four-way controller (▲▼) to choose a filter.**

The preview image of the result of the filter effect appears.

- 5 Use the four-way controller (◀▶) to choose the color.**

The color filter changes in the following sequence each time the four-way controller (▶) is pressed.

Retro	Original image →Amber →Blue
Color	Red →Pink →Purple →Blue →Green →Yellow
Extract Color	Red →Green →Blue
Color Emphasis	Sky Blue →Fresh Green →Delicate Pink →Autumn Leaves

6 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

7 Use the four-way controller (▲▼) to select [Overwrite] or [Save as].

8 Press the OK button.

The image processed with the filter is saved.

5

To Select a Toy Camera, High Contrast, Fish-eye, Brightness or Miniature Filter

4 Use the four-way controller (▲▼) to choose a filter.

The preview image of the result of the filter effect appears.

5 Use the four-way controller (◀▶) to adjust the effect.

	Four-way controller (◀)	Default Setting	Four-way controller (▶)
Toy Camera	Weak	Standard	Strong
High Contrast	Weak	Standard	High Contrast
Fish-eye	Weak	Standard	Strong
Brightness	Dark	Standard	Bright
Miniature	Blurs the top.	Blurs the top and bottom.	Blurs the bottom.

6 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

7 Use the four-way controller (▲ ▼) to select [Overwrite] or [Save as].

8 Press the OK button.

The image processed with the filter is saved.

Using the HDR Filter

Adjusts parts of the image that are too bright or too dark and processes images to simulate an HDR effect.

1 In  mode, use the four-way controller (◀ ▶) to choose the image you want to edit.

2 Use the four-way controller (▲ ▼ ◀ ▶) to select HDR (HDR Filter) from the Playback Mode Palette.

3 Press the OK button.

The preview image of the result of the filter effect appears.

4 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation does not appear.

5 Use the four-way controller (▲ ▼) to select [Overwrite] or [Save as].

6 Press the OK button.

The image processed with the filter is saved.

Creating a Collage Image

Make a collage image by placing captured images on a selected pattern.



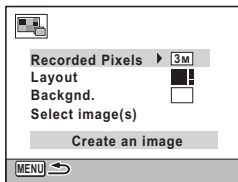
The collage function cannot be used on the following images.

- Movies or images taken at  (Digital Panorama) mode
- Images taken with the recorded pixels of 12M , , or 
- Images taken with other cameras

- 1 Use the four-way controller (▲▼◀▶) to select  (Collage) from the Playback Mode Palette.

- 2 Press the OK button.

The item selection screen appears.



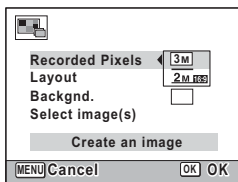
Selecting the Number of Recorded Pixels

- 3 Use the four-way controller (▲▼) to choose [Recorded Pixels].

- 4 Press the OK button or the four-way controller (▶).
A pull-down menu appears.

- 5 Use the four-way controller (▲▼) to choose the recorded pixels.

You can choose from **3M** or **2M (16:9)**.



- 6 Press the OK button.

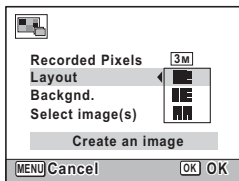
The setting is saved and the item selection screen reappears.

Selecting the Layout Pattern

- 7 Use the four-way controller (▲▼) to choose [Layout].

- 8 Press the OK button or the four-way controller (►).**

A pull-down menu appears.



- 9 Use the four-way controller (▲▼) to choose the pattern of layout.**

You can choose from 3 patterns of layout (■ / ■■ / ■■■).

- 10 Press the OK button.**

The setting is saved and the item selection screen reappears.

Selecting the Background

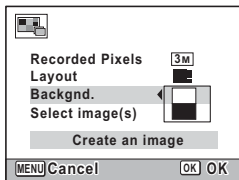
- 11 Use the four-way controller (▲▼) to choose [Backgnd.].**

- 12 Press the OK button or the four-way controller (►).**

A pull-down menu appears.

- 13 Use the four-way controller (▲▼) to choose the background.**

You can choose the white background or the black background.



- 14 Press the OK button.**

The setting is saved and the item selection screen reappears.

Laying Out the Image



- The collage function cannot be used on the following images.
 - Movies or images taken at **1111** (Digital Panorama) mode
 - Images taken with the recorded pixels of **12M 111**, **1024**, or **640**
 - Images taken with other camerasThese images do not appear as selectable items.
- If you select an image with a 16:9 aspect ratio, the black areas appear above and below the image.

15 Use the four-way controller (▲▼) to choose [Select image(s)].

16 Press the OK button or the four-way controller (►).
The images to be selected appear.

17 Use the four-way controller (◀▶) to choose the image to be placed and press the OK button.

The selected image is placed in the highlighted area in the guide. The guide appears on the top left of the display.

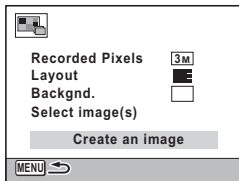


18 Repeat Step 17 to lay out the rest images.

19 Press the Green button.
Returns to the item selection screen.

Saving the Edited Image

20 Use the four-way controller (▲▼) to choose [Create an image].



21 Press the OK button.

A confirmation dialog for saving the image appears.

22 Use the four-way controller (▲) to select [Save].

23 Press the OK button.

The edited image is saved.



The quality level of the image is fixed at ★★★ (Best).

Compensating for a Red-eye Effect

You can correct images where the flash has caused the subject to appear with red eyes.



The red-eye edit function can only be used with still pictures taken with this camera. The red-eye edit function cannot be used on images taken at ■■■ (Digital Panorama) mode, movies, images taken with other cameras and images where red eyes cannot be detected on the camera.

1 In  mode, use the four-way controller (◀▶) to choose the image you want to correct.

2 Use the four-way controller (▲▼◀▶) to select  (Red-eye Edit) from the Playback Mode Palette.

3 Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

4 Use the four-way controller (▲▼) to select [Overwrite] or [Save as].

5 Press the OK button.

The processed image is saved.

Adding a Frame (Frame Composite)

This function lets you add a decorative frame to still pictures. There are three frames already stored in the camera.



The Frame Composite function cannot be used on images taken with the recorded pixels of $12\text{M } 16:9$ / $12\text{M } 1:1$ / $5\text{M } 16:9$ / $4\text{M } 16:9$ / $2\text{M } 16:9$, images of smaller size than 3M with 4:3 aspect ratio, images taken at $\blacksquare\blacksquare\blacksquare$ (Digital Panorama) mode, and movies.

1 In mode, use the four-way controller ($\blacktriangleleft\blacktriangleright$) to choose the image to which you want to add a frame.

2 Use the four-way controller ($\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$) to select (Frame Composite) from the Playback Mode Palette.

3 Press the OK button.

The 9-frame display of the frame selection screen appears.

4 Use the four-way controller ($\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$) to choose a frame.

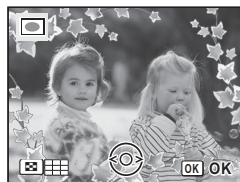


5 Turn the e-dial to the right ().

The selected frame appears in single-image display.

You can choose another frame using either of the following operations.

Four-way controller ($\blacktriangleleft\blacktriangleright$)	Chooses a different frame.
e-dial to the left ()	Returns to the 9-frame display of the frame selection screen, and then lets you choose a different frame in the same way as Step 4.



6

Press the OK button.

The image position and size adjustment screen appears.

You can adjust the image using the following operations.

Four-way controller (▲▼◀▶)	Adjusts the position of the image
e-dial	Makes the image larger or smaller.



7

Press the OK button.

A confirmation dialog for overwriting the image appears.

If the selected image is protected, the processed image is saved as a new image and the following confirmation dialog does not appear.

8

Use the four-way controller (▲▼) to select [Overwrite] or [Save as].

9

Press the OK button.

The processed image is saved with the recorded pixels of **3M**.

Optional Frames

In addition to the built-in frames that come with this camera, there are optional frames included on the supplied CD-ROM. You can save the optional frames to the camera's built-in memory or an SD Memory Card. To save them to the built-in memory, first remove the SD Memory Card before proceeding.

To Copy Frames

1 Connect the camera to a computer using the provided USB cable.

Refer to "Connecting to a Computer" (p.183) for instructions on connecting the camera to a computer.

2 When the device detection window opens, click [Cancel].

3 Insert the CD-ROM into the CD/DVD drive.

4 When the installer window opens, click [EXIT].

5 Copy the desired files from the FRAME folder in the root directory of the CD-ROM to the FRAME folder on the camera (removable disk).

For information on working with files on a computer, refer to the instruction manual supplied with the computer.

6 Disconnect the USB cable from the computer and camera.

Refer to "Connecting to a Computer" (p.183) for instructions on disconnecting the cable.

- Frames can be stored both in the built-in memory and on an SD Memory Card, but using large numbers of frames may slow down processing speed.

To Use a New Frame

Frames downloaded from the PENTAX website or other source can be used for adding a frame to pictures.



- Extract the downloaded frame and copy it to the FRAME folder in the built-in memory or on the SD Memory Card.
- The FRAME folder is created when the SD Memory Card is formatted with this camera.
- For more information on downloading, refer to the PENTAX website.

Editing Movies

You can extract a frame from the recorded movie to save as a still picture, divide a movie into two, or add a title picture to a movie.

- 1** In mode, use the four-way controller (◀▶) to choose the movie you want to edit.
- 2** Use the four-way controller (▲▼◀▶) to select (Movie Edit) from the Playback Mode Palette.
- 3** Press the OK button.

The movie editing selection screen appears.

Subsequent steps vary depending on your selection.



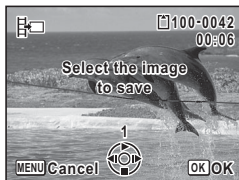
To Save a Frame from a Movie as a Still Picture

- 4** Select [Save as Still Image] on the movie editing selection screen.
- 5** Press the OK button.

The screen for selecting a frame to be saved as a still picture appears.

6 Use the four-way controller (▲▼◀▶) to choose the frame you want to save.

- ▲ Plays or pauses the movie
- ▼ Stops the movie and returns to the first frame
- ◀ Reverses the movie frame by frame^{*1}
- ▶ Forwards the movie frame by frame



^{*1} Every 30 frame is the first frame for reversing frame. For example, when you reverse frame at 1 to 31, the frame reverses to the first frame and when you reverse frame at 32 to 61, the frame reverses to the 31st frame.

7 Press the OK button.

The selected frame is saved as a still picture.

To Divide a Movie

4 Select [Divide Movies] on the movie editing selection screen.

5 Press the OK button.

The screen for specifying the dividing position appears.

6 Use the four-way controller (▲▼◀▶) to specify the dividing position.

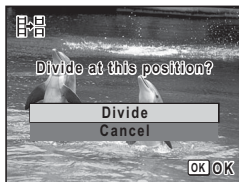
- ▲ Plays or pauses the movie
- ▼ Stops the movie and returns to the first frame
- ◀ Reverses the movie frame by frame
- ▶ Forwards the movie frame by frame



7 Press the OK button.

A confirmation dialog appears.

- 8** Use the four-way controller (▲▼) to select [Divide].



- 9** Press the OK button.

The movie is divided at the specified position, each segment is saved as a new file, and the original movie is deleted.



Protected movies cannot be divided.



- Only the movie for more than 2 seconds (31 frames) can be divided.
- For dividing, every 30 frames (31st, 61st, 91st. frames) can be selected.

To Add a Title Picture to a Movie

- 4** Select [Adding title picture] on the movie editing selection screen.

- 5** Press the OK button.

The screen for selecting a title picture appears.

- 6** Use the four-way controller (◀▶) to choose the image for the title picture.

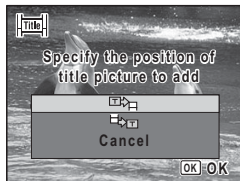
Only images available for the title picture are displayed.

- 7** Press the OK button.

The screen for confirming the position of the title picture appears.

8 Use the four-way controller (▲▼) to select the position.

-  Adds the title picture to the beginning of the movie
-  Adds the title picture to the end of the movie



9 Press the OK button.

The selected picture is saved as the title picture.



- Protected movies cannot be added a title picture.
- If a movie is more than 26 minutes long after adding title pictures, you cannot add any more title pictures to it.



- When a title picture is added to the beginning of a movie: When the movie is played back, the title picture is played back for three seconds, and then the movie is played back. The still picture set as title picture is used as the thumbnail of the movie.
- When a title picture is added to the end of a movie: When the movie is played back, the movie is played back first, then the title picture is played back for three seconds. The thumbnail of the movie is not changed by adding a title picture to the end of the movie.
- A still picture is automatically resized according to the size of the movie.
- Only a still picture with the same aspect ratio as the movie can be set as a title picture.

Copying Images

You can copy images from the built-in memory to the SD Memory Card and vice versa. This function can be selected only when an SD Memory Card has been inserted in the camera.



Make sure that the camera is turned off before inserting or removing the SD Memory Card.

1 Use the four-way controller (▲▼◀▶) to select (Image Copy) from the Playback Mode Palette.

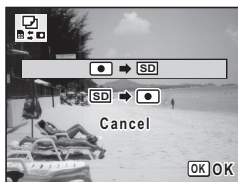
2 Press the OK button.

The copying method selection screen appears.
Subsequent steps vary depending on your selection.

To Copy Files from the Built-in Memory to the SD Memory Card

All the images in the built-in memory are copied to the SD Memory Card at once. Before copying the images, make sure that there is enough space on the SD Memory Card.

3 Use the four-way controller (▲▼) to select [→ SD].



4 Press the OK button.

All the images are copied to the SD Memory Card.

To Copy Files from the SD Memory Card to the Built-in Memory

Selected images from the SD Memory Card are copied to the built-in memory one by one.

3 Use the four-way controller (▲▼) to select [→].

4 Press the OK button.

5 Use the four-way controller (◀▶) to select the image you want to copy.



6 Press the OK button.

The selected image is copied to the built-in memory.

To copy other images, repeat Steps 3 to 6. Select [Cancel] to exit the copy operation.



When a file is copied from the SD Memory Card to the built-in memory, it is assigned a new file name.

Setting the Printing Service (DPOF)

DPOF (Digital Print Order Format) is the format for storing print order data on still pictures captured with a digital camera. Once the print order data has been stored, the pictures can be printed according to the DPOF settings by using a DPOF-compatible printer or at a photo processing lab.

About printing

The following options are available for printing images taken with this camera.

- 1 Use a printing service.
- 2 Use your printer with an SD Memory Card slot to print directly from the SD Memory Card.
- 3 Use your computer's software to print images.

Caution

- The DPOF settings can be applied only to still pictures. Movies cannot be processed with the DPOF settings.
- If the picture already has the date and/or time imprinted on it (p.103), do not set [Date] to ☒ (On) in DPOF setting. If you select ☒, the imprinted date and/or time may overlap.

Printing a Single Image

Set the following items for each image.

Copies	Choose the number of copies up to 99.
Date	Specify whether to imprint the date on the pictures.

1 Use the four-way controller (▲▼◀▶) to select  (DPOF) from the Playback Mode Palette.

2 Press the OK button.

The DPOF setting method selection screen appears.

- 3 Use the four-way controller (▲▼) to select [Single Image].**



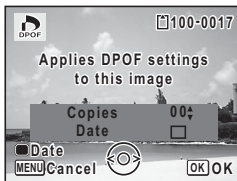
- 4 Press the OK button.**

The message [Applies DPOF settings to this image] appears.

- 5 Use the four-way controller (◀▶) to select an image.**

If DPOF settings have already been made for the selected image, the previous number of copies and date setting ☒ (On) or ☐ (Off) is displayed.

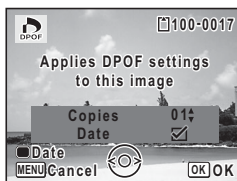
- 6 Use the four-way controller (▲▼) to choose the number of copies.**



- 7 Press the Green button to switch ☒ or ☐ for [Date] setting.**

- ☒ Imprints the date.
- ☐ Does not imprint the date.

To continue DPOF settings to other image(s), repeat Steps 5 to 7.



- 8 Press the OK button.**

The settings are saved and the screen shown in Step 3 reappears.



Depending on the printer or printing equipment at the photo processing lab, the date may not be imprinted on the pictures even if ☒ is selected for [Date] in DPOF setting.



To cancel DPOF settings, set the number of copies to [00] in Step 6 and press the **OK** button.

Printing All Images

DPOF settings are applied to all the images stored in the camera.

1 Select **[All Images]** in Step 3 on p.160.

2 Press the **OK** button.

The message [Applies DPOF settings to all images] appears.

3 Choose the number of copies and switch ☒ or ☐ for **[Date]** setting.

Refer to Steps 6 and 7 in “Printing a Single Image” (p.160) for details on how to make the settings.



4 Press the **OK** button.

The settings specified for all the images are saved and the DPOF setting method selection screen reappears.



- The number of copies specified in the [All Images] setting applies to all the images. Before printing, check that the number is correct.
- DPOF settings specified for single images are canceled when settings are made with [All Images].

Changing the [Fn Setting] Menu

To change the main camera settings, choose each setting in the [Fn Setting] menu. Refer to the explanation of the respective functions for how to change the settings.

- 1 Press the MENU button in  mode.**
The [Fn Setting] menu appears.
- 2 Use the four-way controller ( ) to select an item and change its setting.**
- 3 Press the MENU button after changing the setting.**
The setting is saved and the camera returns to  mode.

Switching Between  Mode and  Mode → p.48

Formatting the Memory

Formatting deletes all the data on the SD Memory Card/built-in memory. Be sure to use this camera to format (initialize) an SD Memory Card that is unused or has been used on other cameras or digital devices.



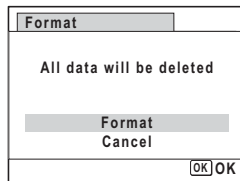
- Do not open the battery/card cover during formatting as this may damage the card and render it unusable.
- Formatting deletes all the data on the card, including protected images and images recorded with a computer or camera other than this camera.
- SD Memory Cards formatted on a computer or device other than this camera cannot be used. Be sure to format the card with this camera.
- When the SD Memory Card is inserted in the camera, the SD Memory Card will be formatted. To format the built-in memory, be sure to operate after taking out the SD Memory Card.
- The optional frames copied from the provided CD-ROM are deleted when the SD Memory Card or the built-in memory is formatted (3 default frames are not deleted).

1 Use the four-way controller (▲▼) to select [Format] in the [↖ Setting] menu.

2 Press the four-way controller (▶).

The [Format] screen appears.

3 Use the four-way controller (▲▼) to select [Format].



4 Press the OK button.

Formatting starts.

When formatting is completed, the camera returns to [▶] mode.

Changing the Sound Settings

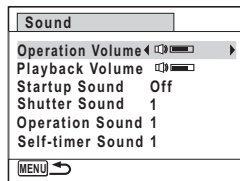
You can adjust the volume of operation sounds and change the type of sound.

1 Use the four-way controller (▲▼) to select [Sound] in the [↖ Setting] menu.

2 Press the four-way controller (▶).

The [Sound] screen appears.

Subsequent steps vary depending on your selection.



To Change the Operation Volume/Playback Volume

3 Use the four-way controller (▲▼) to select [Operation Volume].

- 4 Use the four-way controller (◀▶) to adjust the volume.**
Set the volume to  to mute the startup sound, shutter sound, operation sound, and self-timer sound.
- 5 Change [Playback Volume] in the same way as in Steps 3 and 4.**
- 6 Press the MENU button twice.**
The camera returns to  mode.

To Change the Sound Type

- 3 Use the four-way controller (▲▼) to select [Startup Sound].**
- 4 Press the four-way controller (▶).**
A pull-down menu appears.
- 5 Use the four-way controller (▲▼) to select the sound type.**
Choose from [1], [2], [3] or [Off].
- 6 Press the OK button.**
- 7 Set [Shutter Sound], [Operation Sound] and [Self-timer Sound] in the same way as in Steps 3 to 6.**
- 8 Press the MENU button twice.**
The camera returns to  mode.

Changing the Date and Time

You can change the initial date and time settings (p.41). Also, you can change the format in which the date appears on the camera.

- 1 Use the four-way controller (▲▼) to select [Date Adjustment] in the [ Setting] menu.**
- 2 Press the four-way controller (▶).**
The [Date Adjustment] screen appears.

3 Press the four-way controller (▶).

The frame moves to [mm/dd/yy].
Depending on the initial setting or previous setting, [dd/mm/yy] or [yy/mm/dd] may be displayed.

Date Adjustment	
Date Format	▶mm/dd/yy 24h
Date	01/01/2012
Time	00:00
Settings complete	
MENU Cancel	

4 Use the four-way controller (▲▼) to choose the date format.

Choose from [mm/dd/yy], [dd/mm/yy] or [yy/mm/dd].

5 Press the four-way controller (▶).

The frame moves to [24h].

6 Use the four-way controller (▲▼) to select [24h] (24-hour display) or [12h] (12-hour display).**7 Press the four-way controller (▶).**

The frame returns to [Date Format].

8 Press the four-way controller (▼).

The frame moves to [Date].

9 Press the four-way controller (▶).

The frame moves to one of the following items depending on the date format set in Step 4.

Month for [mm/dd/yy]

Day for [dd/mm/yy]

Year for [yy/mm/dd]

The following operations use [mm/dd/yy] as an example. The operations are the same even if another date format has been selected.

10 Use the four-way controller (▲▼) to change the month.**11 Press the four-way controller (▶).**

The frame moves to the day field. Use the four-way controller (▲▼) to change the day. After changing the day, change the year in the same manner.

12 Change the time in the same way as in Steps 7 to 11.

If you select [12h] in Step 6, the camera automatically switches the display between am and pm corresponding to the time.

13 Press the four-way controller (▼) to select [Settings complete].

14 Press the OK button.

The date and time settings are saved.



When you press the **OK** button in Step 14, the camera clock is reset to 0 seconds. To set the exact time, press the **OK** button when the time signal (on the TV, radio, etc.) reaches 0 seconds.

Setting the World Time

The date and time selected in “Setting the Date and Time” (p.41) and “Changing the Date and Time” (p.164) serve as the Hometown date and time. If you set the Destination city using the World Time function, you can display the Destination date and time when taking pictures in a different time zone.

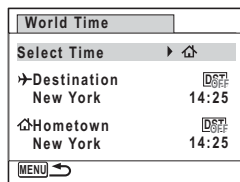
To Set the Destination

1 Use the four-way controller (▲▼) to select [World Time] in the [↶ Setting] menu.

2 Press the four-way controller (▶).

The [World Time] screen appears.

3 Use the four-way controller (▲▼) to select [→ Destination].

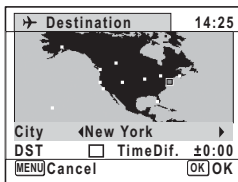


4 Press the four-way controller (▶).

The [→ Destination] screen appears. The city that is currently selected blinks on the map.

5 Use the four-way controller (◀▶) to change the Destination city.

The current time, location and time difference of the selected city appear.

**6 Use the four-way controller (▲▼) to select [DST].****7 Use the four-way controller (◀▶) to select ☒ (On) or ☐ (Off).**

Select ☒ if the Destination city uses daylight saving time.

8 Press the OK button.

The settings are saved and the [World Time] screen reappears.

9 Press the MENU button twice.

The camera returns to mode.

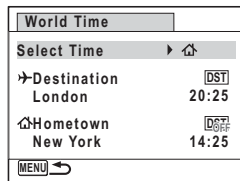


Select [Hometown] in Step 3 to set the city and DST setting for the Hometown city.

To Display the Time of the Destination (Select Time)**1 Use the four-way controller (▲▼) to select [World Time] in the [Setting] menu.****2 Press the four-way controller (▶).**

The [World Time] screen appears.

- 3** Use the four-way controller (▲▼) to select [Select Time].



- 4** Press the four-way controller (▶).
A pull-down menu appears.

- 5** Use the four-way controller (▲▼) to select ✈ or 🏠.
- ✈ Displays the time of the Destination city
 - 🏠 Displays the time of the Hometown city

- 6** Press the OK button.
The setting is saved.

- 7** Press the MENU button twice.
The camera returns to [P] mode.
When ✈ (Destination) is selected in Step 5, the ✈ icon appears on the display to indicate that the Destination date and time are displayed in [P] mode.



Setting the Text Size on the Menu

You can set the text size of the item selected with the cursor on the menu to [Standard] (normal display) or [Large] (magnified display).

- 1** Use the four-way controller (▲▼) to select [Text Size] in the [↶ Setting] menu.
- 2** Press the four-way controller (▶).
A pull-down menu appears.
- 3** Use the four-way controller (▲▼) to select the text size.
Select from [Standard] or [Large].

4 Press the OK button.

The setting is saved.

Changing the Display Language

You can change the language in which the menus, error messages, etc. are displayed.

1 Use the four-way controller (▲▼) to select [Language/言語] in the [↶ Setting] menu.

2 Press the four-way controller (▶).

The [Language/言語] screen appears.

3 Use the four-way controller (▲▼◀▶) to select the desired language.

4 Press the OK button.

The menus and messages are displayed in the selected language.

Changing the Naming System of the Folder

You can change the naming system of the folder for storing images. When the naming system is set to [Date], pictures are saved in separate folders by the date they were taken.

Choice	The name of the folder
Date (Default)	xxx_mmdd (3-digit folder number_month day) * xxx_ddmm (3-digit folder number_day month) when the date format is set to [dd/mm/yy] A folder is made by day, and the images of the day are saved in the folder.
PENTX	xxxPENTX (xxx is the 3-digit folder number) Up to 9999 images are saved in the same folder.
_USER	xxxAAAAA (xxx is the automatically assigned 3-digit folder number, and AAAAA is the 5-digit letters that you entered) Up to 9999 images are saved in the same folder.

Image taken on April 1 with the folder name setting set to [Date] created.

A folder with the name "100_0401" is created.

The images are saved in the "100_0401" folder.

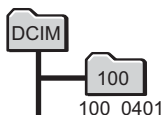


Image taken on April 8 with the folder name setting set to [Date] created.

A folder with the name "101_0408" is created.

The images are saved in the "101_0408" folder.

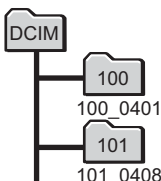


Image taken on April 10 with the folder name setting set to [PENTX] created.

A folder with the name "102PENTX" is created.

The images are saved in the "102PENTX" folder.

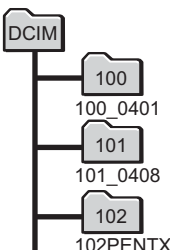
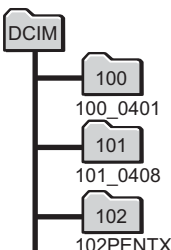


Image taken on April 15 with the folder name setting set to [PENTX] created.

A new folder is not created.

The images are saved in the "102PENTX" folder.



- Up to 900 folders can be created.
- Up to 9999 images can be saved in a folder.

Selecting a Rule for Naming Folders

- 1 Use the four-way controller (▲▼) to select [Folder Name] in the [↖ Setting] menu.**
- 2 Press the four-way controller (▶).**
A pull-down menu appears.
- 3 Use the four-way controller (▲▼) to select the rule for naming folders.**
Select [Date], [PENTX], or [_USER].
- 4 Press the OK button.**
The setting is saved.

Naming the Folder Yourself

You can name the folder in which to save images.

You can enter up to five numbers and letters.

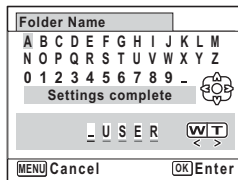
The 5-digit name is displayed after the 3-digit folder number.

1 Select [_USER] in Step 3 in “Selecting the Rule for Naming Folders”.

2 Press the four-way controller (►).

The folder naming screen appears.

“_USER” has already been entered.



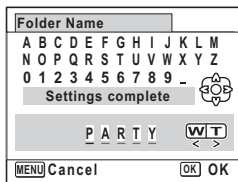
3 Use the four-way controller (▲▼◀▶) to select the letter to enter, and press the OK button.

The first letter is fixed and the cursor moves to the second letter.

4 Repeat Step 3 and enter the remaining letters.

5 Press the four-way controller (◀) while “A” is selected, or press (▼▶) while “_” is selected.

The frame moves to [Settings complete].



6 Press the OK button twice.

The folder name is fixed, and returns to the [↶ Setting] menu.



- You can move the cursor by using the zoom lever.
- The folder name you have set is displayed in the [↶ Setting] menu.

Changing the Naming System of the File

You can change the naming system of the file for storing images.

Choice	The name of the file
IMGP (Default)	IMGPxxxx (xxxx is the automatically assigned 4-digit file number) The file number follows the setting character which is specified to the camera.
USER	AAAAxxxx (xxxx is the automatically assigned 4-digit file number) The file number follows the name you have entered.

Selecting a Rule for Naming Files

- 1 Use the four-way controller (▲▼) to select [File Name] in the [⌂ Setting] menu.**
- 2 Press the four-way controller (▶).**
A pull-down menu appears.
- 3 Use the four-way controller (▲▼) to select the rule for naming files.**
Select [IMGP] or [USER].
- 4 Press the OK button.**
The setting is saved.

Naming the File Yourself

You can name the file of captured images.

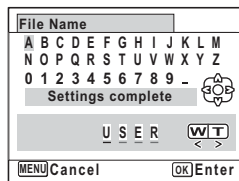
You can enter up to four numbers and letters.

The 4-digit name is displayed before the 4-digit file number.

- 1 Select [USER] in Step 3 in “Selecting a Rule for Naming Files”.**

2 Press the four-way controller (▶).

The file naming screen appears.
“USER” has already been entered.



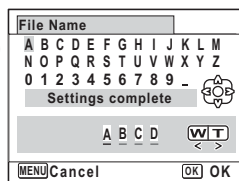
3 Use the four-way controller (▲▼◀▶) to select the letter to enter, and press the OK button.

The first letter is fixed and the cursor moves to the second letter.

4 Repeat Step 3 and enter the remaining letters.

5 Press the four-way controller (◀) while “A” is selected, or press (▼▶) while “_” is selected.

The frame moves to [Settings complete].



6 Press the OK button twice.

The file name is fixed, and returns to the [↖ Setting] menu.



- You can move the cursor by using the zoom lever.
- The file name you have set is not changed even if you reset the camera.

Changing the Video Output Format

When you take pictures and/or play them back with the camera connected to AV equipment, select an appropriate video output format (NTSC or PAL).

1 Use the four-way controller (▲▼) to select [Video Out] in the [↖ Setting] menu.

2 Press the four-way controller (►).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select a video output format.

Choose the video output format to match the input format of the AV equipment.

4 Press the OK button.

The setting is saved.



Depending on the country or region, images and sounds may fail to be played back if the video output format is set differently from the one in use there. If this happens, change the video output format setting.

Connecting the Camera to AV Equipment p.134
Video Output Format of Each City p.210

Selecting the HDMI Output Format

6 When you connect the camera to AV equipment with an HDMI cable, set the appropriate video output resolution for playing back images. The default setting is [Auto].

1 Use the four-way controller (▲▼) to select [HDMI Out] in the [Setting] menu.

2 Press the four-way controller (►).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select an output format.

Choose the HDMI output format to match the output format of the AV equipment.

4 Press the OK button.

The setting is saved.



The items on the pull-down menu vary depending on the selected Video output format.

To change the display, set the Video output format before setting the HDMI output format.

The table below shows the combinations of the Video output format and HDMI output.

	Video output format	
	NTSC	PAL
Resolution	Auto (The largest size that both the AV device and camera support is automatically selected)	
	1080i (1920×1080i)	
	720p (1280×720p)	
	480p (1920×1080i)	576p (720×576p)

Setting Eye-Fi Communication

You can automatically transfer images to a computer or similar devices via wireless LAN using a commercially available Eye-Fi card. For details on transferring images, refer to “Transferring Images Using an Eye-Fi Card” (p.194). The default setting is ☐ (Off).

1 Use the four-way controller (▲▼) to select [Eye-Fi] in the [↖ Setting] menu.

2 Use the four-way controller (◀▶) to select ☒ or ☐.

☒ Communicates using an Eye-Fi card

☐ Does not communicate using an Eye-Fi card

3 Press the OK button.

The setting is saved.



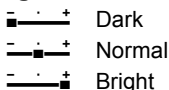
To establish Eye-Fi communication, you first have to specify a wireless LAN access point and transfer destination on the Eye-Fi card. For details on how to set up the card, refer to the operating manual supplied with the Eye-Fi card.

Adjusting the Brightness of the Display

You can adjust the brightness of the display.

1 Use the four-way controller (▲▼) to select [Brightness Level] in the [↶ Setting] menu.

2 Use the four-way controller (◀▶) to adjust the brightness.



3 Press the **MENU** button.

The camera returns to mode.

The display appears with the set brightness.

Using the Power Saving Function

You can save battery power by setting the display to dim automatically when no operation is performed for a fixed time. After the power saving function has been activated, the display returns to the ordinary brightness if any button is pressed.

1 Use the four-way controller (▲▼) to select [Power Saving] in the [↶ Setting] menu.

2 Press the four-way controller (▶).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select the time until the camera enters power saving mode.

Choose from [2min.], [1min.], [30sec.], [15sec.], [5sec.] or [Off].

4 Press the **OK** button.

The setting is saved.



- Power Saving does not function in the following situations:
 - While taking pictures in (Continuous Shooting), (Burst Shooting(L)) or (Burst Shooting(H)) mode
 - When the AC adapter is connected
 - In playback mode
 - While recording a movie
 - While the camera is connected to a computer
 - When a menu is being displayed
- When no operation is performed after the camera is turned on, the Power Saving function is activated only after 15 seconds elapse even if [5sec.] is set.

Setting the Auto Power Off Function

You can set the camera to turn off automatically when no operation is performed for a fixed time.

1 Use the four-way controller (▲ ▼) to select [Auto Power Off] in the [Setting] menu.

2 Press the four-way controller (▶).
A pull-down menu appears.

3 Use the four-way controller (▲ ▼) to select the time until the camera turns off automatically.
Choose from [5min.], [3min.] or [Off].

4 Press the OK button.
The setting is saved.



- Auto Power Off does not function in the following situations:
- While taking pictures in (Continuous Shooting), (Burst Shooting(L)) or (Burst Shooting(H)) mode
 - While recording a movie
 - During a slideshow or playback of movies
 - While the camera is connected to a computer
 - While images are being transferred using an Eye-Fi card

Setting the Quick Zoom Function

You can set whether to use [Quick Zoom] to magnify playback images to the maximum of 10x by simply turning the e-dial to the right (Q) or turning the zoom lever to the right (T) during playback of images in  mode.

- 1 Use the four-way controller (▲▼) to select [Quick Zoom] in the [ Setting] menu.**
- 2 Use the four-way controller (◀▶) to select ☒ or ☐.**
 - ☒ Uses the Quick Zoom.
 - ☐ Does not use the Quick Zoom. (Default setting)
- 3 Press the MENU button.**

The camera returns to  mode.

Setting the Guide Display

Set whether to display the guides in Capture Mode Palette, Movie Mode Palette and Playback Mode Palette or when setting the capture mode.

- 1 Use the four-way controller (▲▼) to select [Guide Display] in the [ Setting] menu.**
- 2 Use the four-way controller (◀▶) to select ☒ or ☐.**
 - ☒ Displays the mode guides. (Default setting)
 - ☐ Does not display the mode guides.
- 3 Press the MENU button.**

The camera returns to  mode.

Setting the Battery Type

Set the AA battery type to be used for the camera.

- 1 Use the four-way controller (▲▼) to select [Select Battery] in the [ Setting] menu.**

2 Press the four-way controller (►).

A pull-down menu appears.

3 Use the four-way controller (▲▼) to select the battery type.

AUTO	For selecting the battery type automatically (Default setting)
Li	Lithium battery
Ni-MH	Nickel-metal hydride battery
AL	Alkaline battery

4 Press the OK button.

The setting is saved.

Changing the Start-up Screen

You can choose the start-up screen displayed when the camera is turned on.

You can choose any of the following images as the start-up screen:

- One of the three pre-installed screens
- The Guide Display Start-up Screen showing a guide for the shooting modes and buttons
- One of the captured images (compatible images only)

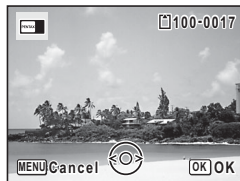
1 Use the four-way controller (▲▼◀▶) to select (Start-up Screen) from the Playback Mode Palette.

2 Press the OK button.

The image selection screen appears.

3 Use the four-way controller (◀▶) to choose the image for the start-up screen.

Only images available for the start-up screen are displayed. You can also choose from among the Guide Display Start-up Screen and three PENTAX logo screens already stored in the camera.



Press the OK button.

The start-up screen is set.



- Once the start-up screen has been set, it will not be deleted even if the original image is deleted or the SD Memory Card/built-in memory is formatted.
- The start-up screen is not displayed when set to [Off].
- The start-up screen is not displayed when the camera starts up in playback mode.
- The following images cannot be used as the start-up screen: images taken with the recorded pixels of **12M 169** / **12M 111** / **5M 169** / **4M 169** / **2M 169**, images of smaller size than **3M** with 4:3 aspect ratio, images taken at **■■■** (Digital Panorama) mode, and movies.

Correcting Defective Pixels in the Image Sensor (Pixel Mapping)

Pixel Mapping is a function for mapping out and correcting defective pixels in the image sensor. Run the Pixel Mapping function if image dots always seem to be defective in the same place.

6

Settings



When executing Pixel Mapping, display the [**Setting**] menu in **mode**. Pixel Mapping cannot be selected when the [**Setting**] menu is displayed in **mode**.

1

Press the MENU button in **mode, and press the four-way controller (►) twice.**

The [**Setting**] menu appears.

2

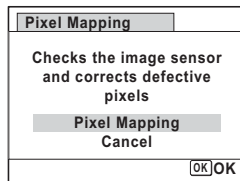
Use the four-way controller (▲ ▼) to select [Pixel Mapping].

3

Press the four-way controller (►).

The [Pixel Mapping] screen appears.

- 4 Use the four-way controller (▲▼) to select [Pixel Mapping].**



- 5 Press the OK button.**

Defective pixels are mapped and corrected.



When the battery level is low, [Not enough battery power remaining to activate Pixel Mapping] appears on the display. Use the AC adapter kit K-AC129 (optional) or replace the batteries with those having sufficient power.

Setting the Playback Shortcut

You can turn on the camera by holding down the button.

- 1 Use the four-way controller (▲▼) to select [Playback Shortcut] in the [⌂ Setting] menu.**

- 2 Use the four-way controller (◀▶) to select ☒ or ☐.**

- ☒ Starts up in playback mode
- ☐ Does not start up in playback mode

- 3 Press the OK button.**

The setting is saved.

Resetting to Default Settings (Reset)

You can reset the camera settings to their defaults. Refer to “Default Settings” (p.205) for the reset settings.

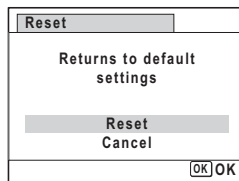
- 1 Use the four-way controller (▲▼) to select [Reset] in the [⌂ Setting] menu.**

- 2 Press the four-way controller (▶).**

The [Reset] screen appears.

3

Use the four-way controller (▲▼) to select [Reset].

**4**

Press the OK button.

The settings return to the defaults.

Setting the USB Connection Mode

Set the device to which the camera is connected with the USB cable.

Caution

Make sure to set the USB Connection mode before connecting your camera to a computer. You cannot perform the following setting if your camera is connected to a computer with the USB cable.

- 1 Turn your camera on.**
- 2 Use the four-way controller (▲▼) to select [USB Connection] in the [↖ Setting] menu.**
- 3 Press the four-way controller (▶).**
A pull-down menu appears.
- 4 Use the four-way controller (▲▼) to select [MSC].**
- 5 Press the OK button.**
The setting is saved.

MSC and PTP

MSC (Mass Storage Class)

A general-purpose driver program that handles devices connected to the computer via USB as a memory device. Also indicates a standard for controlling USB devices with this driver.

By simply connecting a device that supports USB Mass Storage Class, you can copy, read, and write files from a computer without installing a dedicated driver.

PTP (Picture Transfer Protocol)

A protocol that allows transfer of digital images and control of digital cameras via USB, standardized as ISO 15740.

You can transfer image data between devices that support PTP without installing a device driver.

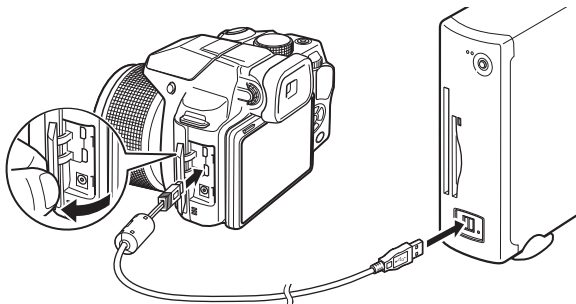
Unless otherwise specified, select MSC when connecting this camera to a computer.

Connecting the Camera and the Computer

Connect your camera to the computer using the provided USB cable.

- 1 Turn the computer on.**
- 2 Turn your camera off.**
- 3 Connect your camera to the computer using the USB cable.**

Face the ➡ mark on the USB cable towards the ◀ mark on the camera, and connect the cable to the PC/AV terminal.



- 4 Turn your camera on.**
The camera is recognized by the computer.



If the batteries run out of power while images are being transferred to the computer, the image data may be lost or damaged. When connecting your camera to the computer, use of the AC adapter kit K-AC129 (optional) is recommended (p.32).

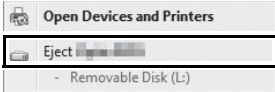


- The power lamp blinks while the camera is connected to a computer.
- For information on system requirements, refer to p.186.

Disconnecting the Camera from the Computer

When the camera is being used by an application such as MediaImpression, it cannot be disconnected until the application is closed.

Windows

- 1 Click the  [Safely Remove Hardware] icon in the task bar located at the bottom-right corner of the desktop.
- 2 Click [Eject (the device connected)].
The message appears.
- 3 Disconnect the USB cable from the Windows PC and your camera.

Macintosh

- 1 Drag [NO NAME] on the desktop to the trash.
If the SD Memory Card has a volume label, drag the icon of that name to the trash.
- 2 Disconnect the USB cable from the Macintosh and your camera.



The camera will automatically switch to the playback mode when the USB cable is disconnected from the camera or the computer.

Using the Provided Software

The following software is included in the provided CD-ROM.

Image viewing/managing/editing software

“Medialmpression 3.5 for PENTAX” (for Windows)

“Medialmpression 2.1 for PENTAX” (for Macintosh)

Languages: English, French, German, Spanish, Portuguese, Italian, Dutch, Swedish, Russian, Korean, Chinese (traditional and simplified), Japanese



You can edit movies when using the Medialmpression (for Windows)

System Requirements

The following system requirements must be met for you to fully enjoy the images and movies captured with the camera on a computer.



The following lists the minimum system requirements for playing back and editing movies. Operation is not guaranteed on all computers meeting the system requirements.

7

Windows®

OS	Windows XP (SP3), Windows Vista® or Windows 7 • The OS must be preinstalled and updated to the latest version.
CPU	Pentium® 4 1.6 GHz or equivalent AMD Athlon (Intel® Core™ 2 Duo 2.0 GHz or equivalent AMD Athlon X2 or higher processor recommended)
Memory	512 MB or more (1 GB or more recommended)
Hard Disk Space	300 MB or more
Others	CD/DVD drive USB port as standard equipment 1024 × 768 pixels, 16-bit color monitor or greater



Windows 95, Windows 98, Windows 98SE, Windows Me, Windows NT and Windows 2000 are not supported.

Macintosh

OS	Mac OS X (Ver.10.4, 10.5, 10.6, 10.7) • The OS must be preinstalled and updated to the latest version.
CPU	PowerPC G4 800 MHz processor or equivalent CPU (Intel® Core™ 2 Duo or higher processor recommended)
Memory	512 MB or more (1 GB or more recommended)
Hard Disk Space	300 MB or more
Others	CD/DVD drive USB port as standard equipment 1024 × 768 pixels, 16-bit color monitor or greater

Installing the Software

Install the image viewing/managing/editing software “MediaImpression”.



- Make sure the computer meets the system requirements before installing the software.
- When multiple accounts have been set up in the computer, log on with an account that has administrative rights before installing the software.

Windows

This section outlines installation steps in Windows 7 as an example.

- 1 Turn your Windows PC on.**
- 2 Insert the provided CD-ROM into the CD/DVD drive.**
If the installation screen appears, go to Step 5.

3 Click **[Computer]** in the Start menu.

4 Double-click the CD/DVD drive icon.

The installation screen appears.

5 Click **[MediaImpression 3.5 for PENTAX]**.

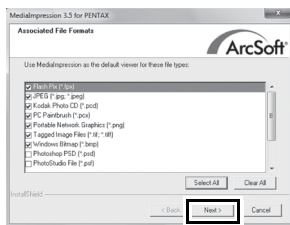


6 Choose a language in the “Choose Setup Language” screen and click **[OK]**.

The setup screen appears. Follow the on-screen guidance and install the software.

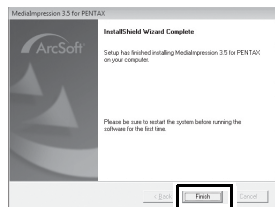
7 Select the file format to use and click **[Next]**.

All files in the checked format will open with MediaImpression. Remove the check to open the file using another application.



8 Click **[Finish]**.

Installation is complete.



9 Click **[Exit]** on the installation screen.

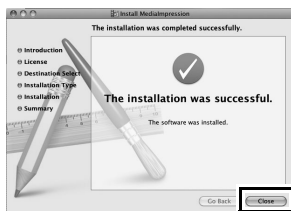
Remove the CD-ROM and reboot the computer.

- 1** Turn your Macintosh on.
- 2** Insert the provided CD-ROM into the CD/DVD drive.
- 3** Double-click the CD-ROM icon.
- 4** Double-click the [Pentax Software Installer] icon.
The installation screen appears.
- 5** Click [Medialmpression 2.1 for PENTAX].

The setup screen appears. Follow the on-screen guidance and install the software.



- 6** Click [Close].
Installation is complete.



- 7** Click [Exit] on the installation screen.
The window is closed.

Product Registration on the Internet

In order to better serve you, we request that you complete the product registration.

If the computer is connected to the Internet, please click [Product Registration] on the installation screen. The world map screen shown on the right for Internet Product Registration is displayed. Click the displayed country or region and then follow the instructions to register your product.

Only customers in countries and regions displayed on the software installation screen can register their products on the Internet Product Registration.



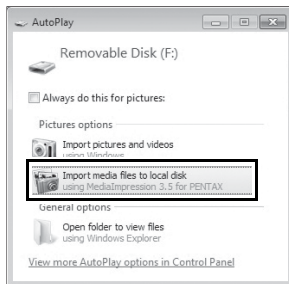
Using MediaImpression on Windows

1 Connect your camera to the computer.

Refer to Steps 2 to 4 on p.184 for details.
The [AutoPlay] screen appears.

2 Click [Import media files to local disk].

MediaImpression starts and the Import screen appears.

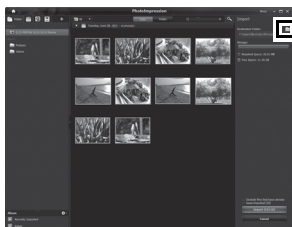


When the [AutoPlay] screen does not appear

- 1 Double-click the [MediaImpression 3.5 for PENTAX] icon on the desktop.
- 2 Click [PhotoImpression].
- 3 Click [Import].

3 Click the folder icon next to [Destination Folder] and specify the destination location.

To transfer all images, proceed to Step 5.



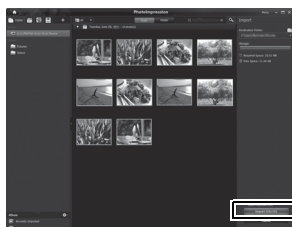
4 Select an image to transfer.

To select multiple images, choose the images while pressing the Ctrl key.

5 Click [Import].

A message appears when transfer is complete.

An arrow mark appears on the transferred images.



You can find more information on how to use MediaImpression by using the help pages. Select [Help] in [Menu] at the top right of the screen.

Using MediaImpression on Macintosh

1 Connect the camera to your Macintosh.

Refer to Steps 2 to 4 on p.184 for details.

2 Double-click the [MediaImpression 2.1 for PENTAX] icon in the [Applications] folder.

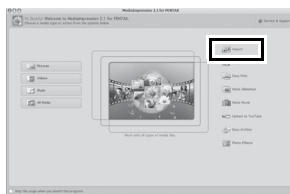
MediaImpression 2.1 for PENTAX starts and the start page appears.



MediaImpression 2.1 for PENTAX.app

3 Click [Import].

The Import screen appears.

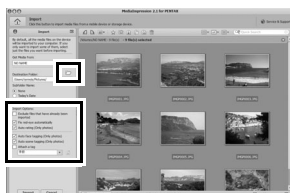


4 Select an image to transfer.

To select multiple images, choose the images while pressing the Command key.

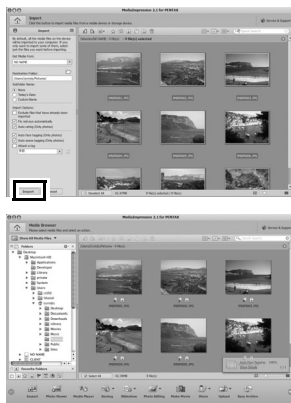
To specify the destination location, click the folder icon.

If any of the "Import Options" are checked, marks will appear on the images that were transferred.



The images are transferred to the computer and the Media Browser screen appears.

When a message appears after transfer is complete, click [Done].



- If the images from the camera are not displayed in the Import screen, select [NO NAME] (or the volume label name) in [Get Media from].
- You can find more information on how to use MediaImpression by using the help pages. Select [ArcSoft MediaImpression Help] in [Help] on the menu bar.

Transferring Images Using an Eye-Fi Card

You can transfer images to your computer or similar devices automatically when a built-in wireless LAN memory card (Eye-Fi card) is inserted in the camera.

1 Specify the wireless LAN access point and transfer destination on the Eye-Fi card.

For details on how to set up the card, refer to the operating manual supplied with the Eye-Fi card.

2 Turn the camera off.

3 Insert the Eye-Fi card into the camera.

4 Turn the camera on.

5 Select ☒ (On) for [Eye-Fi] in the [Setting] menu.

The images are transferred automatically. For details on how to set up the camera, refer to "Setting Eye-Fi Communication" (p.175).

One of the following icons will appear on the display.

Eye-Fi 	Communicating When [Eye-Fi] is set to ☒ and the camera is connected to an access point or is searching for an access point
Eye-Fi 	Waiting for communication When [Eye-Fi] is set to ☒ and is not connected to an access point
Eye-Fi 	Eye-Fi communication is not allowed When [Eye-Fi] is set to ☐ (Off)
Eye-Fi 	Version error When the version of the Eye-Fi card is out of date or the card is write-protected



- Endless Memory Mode is not supported.
- Update the Eye-Fi card firmware as necessary before using the card.

- When you intend to use a brand-new Eye-Fi card for the first time, copy the Eye-Fi Manager installation file to your computer before formatting the card.
- Images are transferred via wireless LAN. Set [Eye-Fi] to ☐ (Off), or do not use an Eye-Fi card in locations where the use of wireless LAN devices is restricted or prohibited, such as on airplanes.
- If you insert an older version of Eye-Fi card in the camera, an error message appears.
- Images will not be transferred in the following situations:
 - When available wireless LAN access points cannot be found
 - When the battery level is low (the color of the battery level indicator is red)
- Transferring a large number of images may take a while. Use of the optional AC adapter kit (K-AC129) is recommended.
- Auto Power Off does not function while transferring images.
- The camera may be turned off automatically to protect the internal components when the inside of the camera reaches a high temperature caused by transferring a large file such as a movie.
- Use of a wireless access point, Internet and suitable Internet settings are required to transfer images via wireless LAN. For more information, refer to the website (<http://www.eye.fi/>).
- For details on how to use an Eye-Fi card, refer to the operating manual supplied with the card.
- In case of malfunction of an Eye-Fi card, refer to the manufacturer of the card.
- Operation is not guaranteed for all Eye-Fi card functions, regardless of whether this camera has the function of turning ON or OFF the wireless communication of an Eye-Fi card.
- Use of an Eye-Fi card is permitted only in the country where the Eye-Fi card is purchased. Observe local and national regulations of the country where the card is to be used.

Functions Available for Each Shooting Mode

Function		Shooting Mode							
Zoom lever	Zoom	✓*1	✓	✓	✓	✓	✓	✓	✓
Flash Mode	(Auto)	✓	✓	✓	✓	×	✓	✓	✓
	(Flash Off)	✓	✓	✓	✓	✓	✓	✓	✓
	(Flash On)	✓	✓	✓	✓	×	✓	✓	✓
	(Auto + Red-eye)	✓	✓	✓	✓	×	✓	✓	✓
	(Flash On + Red-eye)	✓	✓	✓	✓	×	✓	✓	✓
	(Slow-speed Sync)/ (Slow-speed Sync+Red-eye)	✓	✓	✓	✓	×	✓	✓	✓
Drive Mode	(Standard)	✓	✓	✓	✓	×	✓	✓	✓
	(Continuous Shooting)	✓	✓	✓	✓	×	✓	✓	✓
	(Burst Shooting L/H)	✓	✓	✓	✓	×	✓	✓	✓
	(Self-timer)/ (2 sec. Self-timer)	✓	✓	✓	✓	×	✓	✓	✓
	Remote Control 0-sec Remote Control	✓	✓	✓	✓	×	✓	✓	✓
	(Auto Bracketing)	✓	✓	✓	✓	×	✓	✓	✓
Focus Mode	AF (Standard)/ (Macro)	✓	✓	✓	✓	✓	✓	✓	✓
	(1cm Macro)	✓	✓	✓	✓	✓	✓	✓	✓
	(Infinity)	✓	✓	✓	✓	✓	✓	✓	✓
	MF (Manual Focus)	✓	✓	✓	✓	✓	✓	✓	✓
	(AF Area Selection)	×	✓	✓	✓	✓	✓	✓	✓
Rec. Menu	Image Tone	×	×	×	×	✓	×	×	×
	Recorded Pixels	✓*3	✓*3	✓*3	✓*3	✓	✓*3	✓	✓
	Quality Level	✓	✓	✓	✓	✓	✓	✓	✓
	White Balance	×	×	×	×	✓	×	×	×
	AF Setting	Focusing Area	×	✓	✓	✓	✓	✓	✓
		Auto Macro	✓	✓	✓	✓	✓	✓	✓
		Focus Assist	✓	✓	✓	✓	✓	✓	✓
	AE Metering	×	×	×	×	✓	×	×	×
	Sensitivity	✓	✓	✓	✓	✓*7	✓	✓	✓
	AUTO ISO Range	✓	✓	✓	✓	✓*7	✓	✓	✓
	Flash Exp. Comp.	✓	✓	✓	✓	✓	✓	✓	✓
	D-Range Setting	×	✓	✓	✓	✓*10	✓	✓	✓
	Shake Reduction	✓	✓	✓	✓	×	✓	✓	✓
	Face Detection On/Smile/Off	✓*13	✓*13	✓	✓	✓	✓	✓	✓
	Blink Detection	✓	✓	✓	✓	✓	✓	✓	✓
	Instant Review	✓	✓	✓	✓	✓	✓	✓	✓
	Sharpness/Saturation (Tone Adjustment)/Contrast	×	×	×	×	✓	×	×	×
	Date Imprint	✓	✓	✓	✓	✓	✓	✓	✓
	IQ Enhancer	✓	✓	✓	✓	×	✓	✓	✓

✓: Can be set.

x: Cannot be set.

—: Settings and changes are not applied.

								Function	Shooting Mode
			HDR					Zoom	Zoom lever
✓	✓	✓	✓	✓	✓	✓	✓	1/4 (Auto)	Flash Mode
x	✓	x	✓	✓	✓	✓	✓	⏻ (Flash Off)	
✓	✓	✓	✓	✓	✓	✓	✓	⚡ (Flash On)	
✓	✓	x	✓	✓	✓	✓	✓	Ⓜ (Auto + Red-eye)	
x	✓	x	✓	✓	✓	✓	✓	Ⓜ (Flash On + Red-eye)	
✓	✓	x	✓	✓	✓	✓	✓	Ⓜ (Slow-speed Sync)/ Ⓜ (Slow-speed Sync+Red-eye)	
✓	✓	x	✓	✓	✓	✓	✓	Ⓜ (Standard)	Drive Mode
✓	✓	x	x	✓	✓	✓	✓	Ⓜ (Continuous Shooting)	
✓	✓	x	x	✓	✓	✓	✓	Ⓜ (Burst Shooting L/H)	
✓	✓	✓	✓	✓	✓	✓	✓	Ⓜ (Self-timer)/ Ⓜ (2 sec. Self-timer)	
✓	✓	✓	✓	✓	✓	✓	✓	Ⓜ Remote Control Ⓜ 0-sec Remote Control	
✓	✓	x	x	✓	✓	✓	✓	Ⓜ (Auto Bracketing)	
✓	✓	x	✓	✓	✓	✓	✓	AF (Standard)/ Ⓜ (Macro)	Focus Mode
✓	✓	x	✓	✓	✓	✓	✓	Ⓜ (1cm Macro)	
✓	✓	✓	✓	✓	✓	✓	✓	Ⓜ (Infinity)	
✓	✓	x	✓	✓	✓	✓	✓	MF (Manual Focus)	
✓	✓	x	✓	✓	✓	✓	✓	Ⓜ (AF Area Selection)	[Rec. Mode] menu
✓	x*2	x*2	x*2	x*2	x*2	x*2	x*2	Image Tone	
✓*3	✓*3	✓	✓	✓*3	✓*3	✓*3	✓*3	Recorded Pixels	
✓	✓	✓	✓	✓	✓	✓	✓	Quality Level	
✓	x*4	x*4	✓	x*4	x*4	x*4	x*4	White Balance	
✓	✓	x*5	✓	✓	✓	✓	✓	Focusing Area	
✓	✓	x	✓	✓	✓	✓	✓	Auto Macro	
✓	✓	x	✓	✓	✓	✓	✓	Focus Assist	
✓	x*6	x*6	✓	x*6	x*6	x*6	x*6	AE Metering	
✓	✓	x*8	✓	✓	✓	✓	✓	Sensitivity	
✓	✓	—	✓	✓	✓	✓	✓	AUTO ISO Range	
✓	✓	✓	✓	✓	✓	✓	✓	Flash Exp. Comp.	
✓	✓	✓	x	✓	✓	✓	✓	D-Range Setting	
✓	✓	✓*12	✓	✓	✓	✓	✓	Shake Reduction	
✓	✓*13	✓	✓	✓	✓*13	✓*13	x*14	Face Detection On/Smile/Off	
✓	✓	✓	x*9	✓	✓	✓	✓	Blink Detection	
✓	✓	✓	✓	✓	✓	✓	✓	Instant Review	
✓	x*15	x*15	✓	x*15	x*15	x*15	x*15	Sharpness/Saturation (Tone Adjustment)/Contrast	
✓	✓	✓	✓	✓	✓	✓	✓	Date Imprint	
✓	✓	✓	x*9	✓	✓	✓	✓	IQ Enhancer	

Function		Shooting Mode							WIDE		
Zoom lever	Zoom	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
Flash Mode	(Auto)	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
	(Flash Off)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(Flash On)	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
	(Auto + Red-eye)	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
	(Flash On + Red-eye)	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
	(Slow-speed Sync)/ (Slow-speed Sync+Red-eye)	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
Drive Mode	(Standard)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(Continuous Shooting)	✓	✓	✓	✓	✓	x	x	x	x	x
	(Burst Shooting L/H)	✓	✓	✓	✓	✓	x	x	x	x	x
	(Self-timer)/ (2 sec. Self-timer)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Remote Control 0-sec Remote Control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(Auto Bracketing)	✓	✓	✓	✓	✓	x	x	x	x	x
Focus Mode	AF (Standard)/ (Macro)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	(1cm Macro)	✓	✓	✓	✓	✓	x	x	x	x	x
	(Infinity)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MF (Manual Focus)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
[Rec. Menu]	(AF Area Selection)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Image Tone	x*2	✓	x*2	x*2	x*2	✓	✓	✓	✓	✓
	Recorded Pixels	✓*3	✓*3	x*20	✓*3	✓*3	x*21	x*22	x*23	x*23	x*23
	Quality Level	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	White Balance	x*4	✓	x*4	x*4	x*4	✓	✓	✓	✓	✓
	AF Setting	Focusing Area	✓	✓	✓	✓	✓	✓	✓	✓	✓*30
		Auto Macro	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Focus Assist	✓	✓	✓	✓	✓	✓	✓	✓	✓
	AE Metering	x*6	✓	x*6	x*6	x*6	✓	✓	✓	✓	✓
	Sensitivity	✓	x*32	✓	✓	✓	✓	✓	✓	✓	✓
	AUTO ISO Range	✓	x*34	✓	✓	✓	✓	✓	✓	✓	✓
	Flash Exp. Comp.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	D-Range Setting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Shake Reduction	✓	✓*12	✓	✓	✓	✓	✓*12	✓*12	✓*12	✓*12
	Face Detection On/Smile/Off	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Blink Detection	✓	✓	✓	✓	✓	x*9	x*9	x*9	x*9	✓
	Instant Review	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Sharpness/Saturation (Tone Adjustment)/Contrast	x*15	✓	x*15	x*15	x*15	✓	✓	✓	✓	✓
	Date Imprint	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	IQ Enhancer	✓	✓	✓	✓	✓	x*9	x*9	x*9	x*9	✓

✓: Can be set.

x: Cannot be set.

—: Settings and changes are not applied.

P	M					Function	Shooting Mode
✓	✓	✓*16	✓*16	✓*16	✓*19	Zoom	Zoom lever
✓	x	x	x	x	✓	 (Auto)	Flash Mode
✓	✓	✓	✓	✓	✓	 (Flash Off)	
✓	✓	x	x	x	x	 (Flash On)	
✓	x	x	x	x	x	 (Auto + Red-eye)	
✓	✓	x	x	x	x	 (Flash On + Red-eye)	
✓	✓	x	x	x	x	 (Slow-speed Sync)/  (Slow-speed Sync+Red-eye)	
✓	✓	✓	✓	✓	✓	 (Standard)	Drive Mode
✓	✓	x	x	x	x	 (Continuous Shooting)	
✓	✓	x	x	x	x	 (Burst Shooting L/H)	
✓	✓	x	✓	✓	✓	 (Self-timer)/  (2 sec. Self-timer)	
✓	✓	x	✓	✓	x	 Remote Control  0-sec Remote Control	
✓	✓	x	x	x	x	 (Auto Bracketing)	
✓	✓	✓	✓	✓	✓	AF (Standard)/  (Macro)	Focus Mode
✓	✓	✓	✓	✓	x	 (1cm Macro)	
✓	✓	✓	✓	✓	x	 (Infinity)	
✓	✓	✓	✓	✓	x	MF (Manual Focus)	
✓	✓	✓	✓	✓	x	 (AF Area Selection)	
✓	✓	✓	✓	✓	x*2	Image Tone	
✓*3	✓*3	✓*24	x*25	x*26	x*27	Recorded Pixels	 [Rec. Mode] menu
✓	✓	x*28	x*28	x*28	x*29	Quality Level	
✓	✓	✓	✓	✓	x*4	White Balance	
✓	✓	✓*30	✓*30	✓*30	x*5	Focusing Area	
✓	✓	✓	✓	✓	x*31	Auto Macro	
✓	✓	x*9	x*9	x*9	x*31	Focus Assist	
✓	✓	x*6	x*6	x*6	x*6	AE Metering	
✓	✓*33	x*32	x*32	x*32	x*32	Sensitivity	
✓	—	x*35	x*35	x*35	x*36	AUTO ISO Range	
✓	✓	—	—	—	x*37	Flash Exp. Comp.	
✓	✓	✓	✓	✓	x*9	D-Range Setting	
✓	✓	✓*38	x*9	x*9	x*39	Shake Reduction	
✓	✓	✓	✓	✓	x*14	Face Detection On/Smile/Off	
✓	✓	x*9	x*9	x*9	x*31	Blink Detection	
✓	✓	x*9	x*9	x*9	x*31	Instant Review	
✓	✓	✓	✓	✓	x*15	Sharpness/Saturation (Tone Adjustment)/Contrast	
✓	✓	x*9	x*9	x*9	x*9	Date Imprint	
✓	✓	✓	✓	x*9	x*31	IQ Enhancer	

- *1 The Flower mode cannot be selected when using Digital Zoom or Intelligent Zoom.
- *2 Fixed at [Bright]
- *3 Fixed at in (Burst Shooting(L)) or (Burst Shooting(H)) mode
- *4 Fixed at **AWB**
- *5 Fixed at (Multiple)
- *6 Fixed at (Multi-segment)
- *7 The maximum sensitivity is 1600.
- *8 The sensitivity is fixed to the minimum value.
- *9 Fixed at ☐ (Off)
- *10 Highlight Correction is fixed at ☐ (Off).
- *11 Fixed at [Dual]
- *12 [Dual] cannot be selected.
- *13 [Off] cannot be selected.
- *14 Fixed at [On]
- *15 Fixed at the normal setting
- *16 [Wind Suppression] can be set in the [Movie] menu.
Recording start/stop using the Movie button is not available. (The Movie button is only available in still picture capture mode.)
- *17 Only optical zoom and Digital Zoom are available before recording; only Digital Zoom is available during recording.
- *18 Only optical zoom and Digital Zoom are available before recording; zoom is not available during recording.
- *19 Only optical zoom and Digital Zoom are available.
- *20 Fixed at
- *21 Fixed at for the first shot, and fixed at for a composite image
- *22 Fixed at for the first shot
- *23 Fixed at
- *24 Set [Recorded Pixels] in the [Movie] menu
- *25 Fixed at 640×480 recorded pixels, and 15 fps frame rate
- *26 Fixed at 640×480 recorded pixels, and 120 fps frame rate
- *27 Fixed at
- *28 Fixed at ★★★ (Best)
- *29 Fixed at ★★ (Better)
- *30 (Automatic Tracking AF) is not available.
- *31 Fixed at ☒ (On)
- *32 Fixed at [AUTO]
- *33 [AUTO] cannot be selected.
- *34 Fixed at 100–6400
- *35 Fixed at [100–800]
- *36 Fixed at [100–1600]
- *37 Fixed at ±0.0
- *38 Set [Movie SR] in the [Movie] menu
- *39 Fixed at [Sensor Shift]

Messages

Messages such as the following may appear on the display during camera operation.

Message	Description
Battery depleted	The batteries are exhausted. Replace with new batteries (p.30).
Memory card full	The SD Memory Card is full and no more images can be saved. Insert a new SD Memory Card or delete unwanted images (p.34, p.129). Change the number of recorded pixels or quality level of recorded images and try again (p.137).
Memory card error	Shooting and playback are impossible due to a problem with the SD Memory Card. You may be able to display or copy the images on the card using a computer.
The built-in memory is not formatted	The data within the built-in memory are damaged. Format the built-in memory.
Card is not formatted	The SD Memory Card you have inserted is unformatted or has been formatted on a computer or other device and is not compatible with this camera. Format the SD Memory Card in the camera (p.162).
Card is locked	The SD Memory Card is write-protected (p.6).
Compression error	Displayed when the camera fails to compress an image. Change the quality level or recorded pixels of the image and try shooting or saving it again.
Movie recording stopped	Displayed when the internal temperature of the camera has exceeded normal operating limits while recording a movie.
The camera will turn off to prevent damage from overheating	The camera turned off because it has overheated. Wait until it cools down and then turn it back on.
Deleting	Displayed while deleting an image.
No image	There are no images for playback on the SD Memory Card or in the built-in memory.
Unable to play back this image	You are trying to play back an image in a format not supported by this camera. You may be able to play it back on another brand of camera or on your computer.
Image folder cannot be created	The largest file number (9999) has been assigned to an image in the largest folder number (999) and no more images can be saved. Insert a new SD Memory Card or format the card (p.162).
Protected	The image you are trying to delete is protected.

Message	Description
Data being recorded	Displayed when you switch to  mode while an image is still being recorded, or when the protect setting or DPOF setting is being saved. It disappears after the image is recorded or the setting is saved.
Data being processed	Displayed when the camera takes more than five seconds to display an image due to image processing, or when the SD Memory Card or the built-in memory is being formatted.
Built-in memory full	Displayed if the built-in memory is full when saving a file.
No image to be processed	Displayed when there are no images.
This image cannot be processed	Displayed for files that cannot be processed.
No card in the camera	Displayed when no SD Memory Card is inserted.
Available memory on card is insufficient to copy the images	Displayed when there is insufficient memory on the SD Memory Card to perform copying.
Available built-in memory is insufficient to copy the images	Displayed when there is insufficient built-in memory to perform copying.
Cannot process correctly	Displayed when Red-eye Edit processing fails.
Please pop-up the flash	Press the  button to enable the use of the flash.
Please confirm the lens cap is removed	Displayed when the power is turned on with the lens cap on. Turn the camera on after removing the lens cap.
Not enough battery power remaining to activate Pixel Mapping	Displayed during pixel mapping if the battery level is insufficient. Install new batteries or use the optional AC adapter kit K-AC129 (p.32).
This card isn't compatible with this camera	Displayed when the version of the Eye-Fi card is outdated and the camera is not compatible with it (p.194).
The version of this Eye-Fi card is outdated	

Troubleshooting

Problem	Cause	Remedy
The camera will not turn on	The batteries are not installed	Check if batteries are installed. If not, install batteries.
	The batteries are installed incorrectly	Check orientation of the batteries. Reinsert the batteries according to the ⊕ ⊖ symbols in the battery compartment (p.30).
	The batteries are exhausted	Install new batteries.
No image appears on the display	The camera is connected to a computer	The display is off when the camera is connected to a computer.
	The camera is connected to a TV	The display is off when the camera is connected to a TV.
	The viewfinder is selected	Press the EVF button.
The display is hard to see	The brightness level of the display is set too dark	Adjust the brightness level in [Brightness Level] in the [Setting] menu (p.176).
	Power Saving function is activated	When the Power Saving function is activated, the display automatically darkens after a certain amount of time. Press any button to return to the normal brightness level. Select [Off] in [Power Saving] in the [Setting] menu to turn the Power Saving function off (p.176).
The shutter will not release	The flash is charging	Pictures cannot be taken while the flash is charging. Wait until charging is finished.
	There is no available space on the SD Memory Card or in the built-in memory	Insert an SD Memory Card with available space or delete unwanted images (p.129).
	Recording	Wait until recording is finished.
The picture is dark when using the flash	The subject is too far away in a dark environment, such as a night scene	The picture becomes dark if the subject is too far away. Take pictures within the specified flash range.

Problem	Cause	Remedy
The subject is not in focus	The subject is difficult to focus on with autofocus	Lock the focus on an object the same distance away as the subject (by pressing and holding the shutter release button halfway), then aim the camera at your subject and press the shutter release button fully (p.59). Or set the focus manually (p.87).
	The subject is not in the focusing area	Locate the desired subject in the focus frame (focusing area) in the center of the display. If it is difficult to do so, first lock the focus on the desired subject (focus lock), and then move the camera to recompose. Or, use the  (AF Area Selection) mode to take a picture with the focusing area set on the subject you wish to focus on in (p.87).
The flash does not discharge	The flash is not popped up	Pop up the flash.
	The flash mode is set to 	Set to  (Auto) or  (Flash On) (p.82).
	The drive mode is set to  ,  ,  or  The focus mode is set to  The shooting mode is set to  ,  ,  ,  or 	The flash does not discharge in these modes.
The flash mode cannot be set	The flash is not popped up	Pop up the flash.



Very occasionally, static electricity may cause camera malfunction. In this case, remove the batteries and install them again. If the camera is then working properly, normal condition is restored and you can continue using the camera.

Default Settings

The table below lists the factory default settings.

The meaning of the indications for menu items with a default setting is explained below.

Last Memory Setting

Yes : The current setting (last memory) is saved when the camera is turned off.

No : The setting returns to the default setting when the camera is turned off.

* : The setting depends on the [Memory] setting (p.116).

— : N/A

Reset Setting

Yes : The setting returns to the default setting with the reset function (p.181).

No : The setting is saved even after reset.

— : N/A

● [📷 Rec. Mode] Menu Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Image Tone		Bright	Yes	Yes	p.90
Recorded Pixels		 (4608×3456)	Yes	Yes	p.91
Quality Level		★★ (Better)	Yes	Yes	p.92
White Balance		AWB (Auto)	*	Yes	p.93
AF Setting	Focusing Area	  (Multiple)	Yes	Yes	p.89
	Auto Macro	☒ (On)	Yes	Yes	p.89
	Focus Assist	☒ (On)	Yes	Yes	p.90
AE Metering		 (Multi-segment metering)	*	Yes	p.95
Sensitivity		AUTO	*	Yes	p.96
AUTO ISO Range		100-1600	*	Yes	p.97
Flash Exp. Comp.		±0.0	Yes	Yes	p.98
D-Range Setting	Highlight Correction	☐ (Off)	Yes	Yes	p.98
	Shadow Correction	☐ (Off)	Yes	Yes	
Shake Reduction		Sensor Shift	Yes	Yes	p.99

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Face Detection		On	*	Yes	p.100
Blink Detection		☒ (On)	Yes	Yes	p.101
Digital Zoom		☒ (On)	*	Yes	p.66
Instant Review		☒ (On)	Yes	Yes	p.102
Memory	Face Detection	☐ (Off)	Yes	Yes	p.116
	Flash Mode	☒ (On)	Yes	Yes	
	Drive Mode	☐ (Off)	Yes	Yes	
	Focus Mode	☐ (Off)	Yes	Yes	
	Zoom Position	☐ (Off)	Yes	Yes	
	MF Position	☐ (Off)	Yes	Yes	
	White Balance	☐ (Off)	Yes	Yes	
	Sensitivity	☐ (Off)	Yes	Yes	
	EV Compensation	☐ (Off)	Yes	Yes	
	AE Metering	☐ (Off)	Yes	Yes	
	Digital Zoom	☒ (On)	Yes	Yes	
	DISPLAY	☐ (Off)	Yes	Yes	
	File No.	☒ (On)	Yes	Yes	
Green Button		Green Mode	Yes	Yes	p.105
Sharpness		 (Normal)	Yes	Yes	p.102
Saturation		 (Normal)	Yes	Yes	p.102
Tone Adjustment ^{*1}		 (B&W)	Yes	Yes	p.102
Contrast		 (Normal)	Yes	Yes	p.103
Date Imprint		☐ (Off)	Yes	Yes	p.103
IQ Enhancer		☒ (On)	Yes	Yes	p.104

*1 When [Image Tone] is set to [Monochrome], [Tone Adjustment] is displayed instead of [Saturation].

● [🎬 Movie] Menu Items

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Recorded Pixels	 (1920×1080•30fps)	Yes	Yes	p.114
Movie SR	☒ (On)	Yes	Yes	p.114
Wind Suppression	☐ (Off)	Yes	Yes	p.115

● [Setting] Menu Items

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Save as USER		Cancel	Yes	Yes	p.80
Sound	Operation Volume	3	Yes	Yes	p.163
	Playback Volume	3	Yes	Yes	
	Startup Sound	Off	Yes	Yes	
	Shutter Sound	1	Yes	Yes	
	Operation Sound	1	Yes	Yes	
	Self-timer Sound	1	Yes	Yes	
Date Adjustment	Date Format (date)	According to initial setting	Yes	No	p.164
	Date Format (time)	24h	Yes	No	
	Date	01/01/2012	Yes	No	
	Time	According to initial setting	Yes	No	
World Time	Select Time	 Hometown	Yes	Yes	p.166
	Destination (City)	According to initial setting	Yes	No	
	Destination (DST)	Off	Yes	No	
	Hometown (City)	According to initial setting	Yes	No	
	Hometown (DST)	Off	Yes	No	
Text Size		Standard	Yes	No	p.168
Language/言語		According to initial setting	Yes	No	p.169
Folder Name		Date	Yes	Yes	p.169
File Name		IMGP	Yes	Yes	p.172
USB Connection		MSC	Yes	Yes	p.183
Video Out		According to initial setting	Yes	No	p.173
HDMI Out		Auto	Yes	Yes	p.174
Eye-Fi		☐ (Off)	Yes	Yes	p.175
Brightness Level		 (Normal)	Yes	Yes	p.176
Power Saving		5 sec.	Yes	Yes	p.176
Auto Power Off		3 min.	Yes	Yes	p.177
Quick Zoom		☐ (Off)	Yes	Yes	p.178
Guide Display		☒ (On)	Yes	Yes	p.178

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Select Battery	AUTO	Yes	Yes	p.178
Reset	Cancel	—	—	p.181
Delete All	Cancel	—	—	p.131
Pixel Mapping	Cancel	—	—	p.180
Playback Shortcut	☒ (On)	Yes	Yes	p.181
Format	Cancel	—	—	p.162

● Playback Mode Palette Items

Item	Default Setting	Last Memory Setting	Reset Setting	Page
Slideshow	Interval	3 sec.	Yes	p.124
	Screen Effect	Wipe	Yes	
	Sound Effect	☒ (On)	Yes	
Image Rotation		Normal	—	p.126
Stretch Filter		Center, 8 %	No	p.139
Small Face Filter		Approx. 7%	No	p.140
Collage	Recorded Pixels	 (2048×1536)	Yes	p.146
	Layout		Yes	p.146
	Backgnd.	White	Yes	p.147
	Select image(s)	—	—	p.148
Digital Filter		B&W	No	p.142
HDR Filter		—	No	p.145
Frame Composite		Default 1	Yes	p.150
Movie Edit		Save as Still Image	—	p.153
Red-eye Edit		—	—	p.149
Resize	Recorded Pixels	Depending on the picture taken	—	p.137
	Quality Level	Depending on the picture taken	—	
Cropping		Depending on the picture taken	—	p.138
Image Copy		Built-in memory → SD Memory Card	—	p.156

Item		Default Setting	Last Memory Setting	Reset Setting	Page
Protect	Single Image	Depending on the recorded image	—	—	p.131
	All Images	Depending on the recorded image	—	—	
DPOF	Single Image	Copies: 0	—	—	p.159
	All Images	Date: □ (Off)	—	—	
Start-up Screen		Start-up Screen 1	Yes	Yes	p.179

● Key Operation

Item	Function	Default Setting	Last Memory Setting	Reset Setting	Page
button	Operation Mode	Mode	—	—	—
Movie button	Operation Mode	Recording stars	—	—	p.111
Zoom lever	Zoom Position	Full wide-angle	*	No	p.64
Four-way controller	Drive Mode	□ (Standard)	*	Yes	p.84
	Flash Mode	A (Auto)	*	Yes	p.82
	Focus Mode	AF (Standard)	*	Yes	p.86
MENU button	Menu Display	Rec. Mode] menu	—	—	p.49
DISP button	Information Display	Normal	*	Yes	p.22
EVF button	Display switching	Monitor display	Yes	Yes	—
Green button	Capture Mode	Green Mode	Yes	Yes	p.105

List of World Time Cities

City: indicates cities that can be set as either the Initial Setting (p.38) or the World Time (p.166).
Video Output Format: indicates the video output format of the city set as the initial setting.

Region	City	Video Output Format	Region	City	Video Output Format
North America	Honolulu	NTSC	Africa/ West Asia	Istanbul	PAL
	Anchorage	NTSC		Cairo	PAL
	Vancouver	NTSC		Jerusalem	PAL
	San Francisco	NTSC		Nairobi	PAL
	Los Angeles	NTSC		Jeddah	PAL
	Calgary	NTSC		Tehran	PAL
	Denver	NTSC		Dubai	PAL
	Chicago	NTSC		Karachi	PAL
	Miami	NTSC		Kabul	PAL
	Toronto	NTSC		Male	PAL
	New York	NTSC		Delhi	PAL
Central and South America	Halifax	NTSC		Colombo	PAL
	Mexico City	NTSC		Kathmandu	PAL
	Lima	NTSC		Dacca	PAL
	Santiago	NTSC	East Asia	Yangon	NTSC
	Caracas	NTSC		Bangkok	PAL
	Buenos Aires	PAL		Kuala Lumpur	PAL
Europe	Sao Paulo	PAL		Vientiane	PAL
	Rio de Janeiro	NTSC		Singapore	PAL
	Lisbon	PAL		Phnom Penh	PAL
	Madrid	PAL		Ho Chi Minh	PAL
	London	PAL		Jakarta	PAL
	Paris	PAL		Hong Kong	PAL
	Amsterdam	PAL		Beijing	PAL
	Milan	PAL		Shanghai	PAL
	Rome	PAL		Manila	NTSC
	Copenhagen	PAL		Taipei	NTSC
	Berlin	PAL		Seoul	NTSC
	Prague	PAL		Tokyo	NTSC
	Stockholm	PAL		Guam	NTSC
	Budapest	PAL	Oceania	Perth	PAL
	Warsaw	PAL		Adelaide	PAL
	Athens	PAL		Sydney	PAL
	Helsinki	PAL		Noumea	PAL
	Moscow	PAL		Wellington	PAL
	Dakar	PAL		Auckland	PAL
Africa/ West Asia	Algiers	PAL		Pago Pago	NTSC
	Johannesburg	PAL			

Main Specifications

Type	Fully automatic compact digital camera with built-in zoom lens	
Number of Effective Pixels	Approx. 16.0 megapixels	
Image Sensor	1/2.33 inch CMOS	
Number of Recorded Pixels	Still	16M (4608×3456), 12M 16M (3456×3456), 12M 16M (4608×2592), 7M (3072×2304), 5M 16M (3072×1728), 5M (2592×1944), 4M 16M (2592×1464), 3M (2048×1536), 2M 16M (1920×1080), 1024 (1024×768), 640 (640×480) * Fixed at 3M in Frame Composite mode. * Fixed at 5M in Digital Wide mode, however, the first frame uses 3M. * Fixed at 2M for one frame in Digital Panorama mode. * Fixed at 5M / 4M 16M in Burst Shooting(L) or Burst Shooting(H) mode. * Fixed at 2M in Stage Lighting mode.
	Movie	1920 (1920×1080/30fps), 1280 (1280×720/60fps) 1280 (1280×720/30 fps), 640 (640×480/30 fps)
Sensitivity	AUTO, Manual (ISO 100, 200, 400, 800, 1600, 3200, 6400) * The sensitivity is fixed at AUTO (100-6400) in Digital SR mode.	
File Format	Still	JPEG (Exif 2.3), DCF 2.0, DPOF, PRINT Image Matching III
	Movie	MPEG-4 AVC/H.264, Approx. 60 fps/30 fps, PCM system, monaural sound, Movie SR (Movie Shake Reduction)
Quality Level	Still	★★★ "Best", ★★ "Better", ★ "Good"
	Movie	Fixed at ★★★ (Best) *Unchangeable
Storage Media	Built-in memory (Approx. 75.3 MB), SD Memory Card, SDHC Memory Card, SDXC Memory Card * UHS-1 supported	

Approximate Image Storage Capacity and Recording Time

Still Pictures

Recorded Pixels	Built-in Memory			2GB SD Memory Card		
	★★★	★★	★	★★★	★★	★
16M (4608×3456)	14 pictures	25 pictures	42 pictures	370 pictures	654 pictures	1078 pictures
12M (3456×3456)	17 pictures	33 pictures	51 pictures	436 pictures	854 pictures	1308 pictures
12M (4608×2592)	17 pictures	33 pictures	51 pictures	436 pictures	854 pictures	1308 pictures
7M (3072×2304)	25 pictures	47 pictures	76 pictures	654 pictures	1205 pictures	1921 pictures
5M (3072×1728)	30 pictures	58 pictures	84 pictures	778 pictures	1499 pictures	2120 pictures
5M (2592×1944)	30 pictures	58 pictures	84 pictures	778 pictures	1499 pictures	2120 pictures
4M (2592×1464)	40 pictures	76 pictures	109 pictures	1024 pictures	1921 pictures	2795 pictures
3M (2048×1536)	47 pictures	94 pictures	137 pictures	1205 pictures	2365 pictures	3416 pictures
2M (1920×1080)	69 pictures	126 pictures	185 pictures	1756 pictures	3236 pictures	4730 pictures
1024 (1024×768)	166 pictures	283 pictures	371 pictures	4099 pictures	6832 pictures	8784 pictures
640 (640×480)	344 pictures	536 pictures	603 pictures	8784 pictures	12298 pictures	15372 pictures

- The image storage capacity is for reference only. The actual image storage capacity may vary depending on the SD Memory Card and the subject.

Movies

Recorded Pixels	Built-in Memory	2GB SD Memory Card
1920 (1920×1080/30 fps)	29 sec.	16 min. 51 sec.
1280 (1280×720/60 fps)	29 sec.	16 min. 34 sec.
1280 (1280×720/30 fps)	47 sec.	27 min. 11 sec.
640 (640×480/30 fps)	2 min. 3 sec.	1 hr. 10 min. 24 sec.

- The above figures are based on our standard shooting conditions and may vary depending on the subject, shooting conditions and type of the SD Memory Card used.
- The maximum length of continuous recording time for a movie is 25 minutes.

White Balance	Auto, Daylight, Shade, Tungsten Light, Fluorescent Light (Daylight Colors/Daylight White/White Light), Manual	
Lens	Focal Length	4.0 mm - 104.0 mm (Approx. 22.3 mm - 580 mm in 35 mm equivalent focal length)
	Aperture	F3.1 (W) - F5.9 (T)
	Lens Composition	12 elements in 9 groups (3 aspherical elements)
	Zoom Type	Electrically driven
Optical Zoom	26×	
Intelligent Zoom	$\frac{7\text{M}}{3\text{M}}$: Approx. 39×, $\frac{5\text{M}}{2\text{M}}$: Approx. 46.2×, $\frac{3\text{M}}{1024}$: Approx. 58.5×, $\frac{2\text{M}}{640}$: Approx. 62.4×, $\frac{2\text{M}}{3\text{M}}$: Approx. 74.9×, $\frac{1024}{640}$: Approx. 117×, $\frac{640}{1024}$: Approx. 187.2× (when combined with optical zoom)	
Digital Zoom	Up to approx. 7.2× (when combined with 26× optical zoom to give zoom magnification equivalent to approx. 187.2×)	
Motion Blur Reduction	Still	Sensor-Shift-Type (SR: Shake Reduction), Dual (SR & Pixel Track SR), High-sensitivity anti-shake mode (Digital SR)
	Movie	Movie Shake Reduction (Movie SR)
Display	3.0-inch tiltable LCD with approx. 460,000 dots (can be lowered down to approx. 60° or raised upward to approx. 90°)	
Viewfinder	Electronic viewfinder with approx. 230,000 dots and diopter adjustment function	
Playback Modes	Single-frame, 4-frame, 9-frame, Enlargement (max. 10×, scrollable), Folder Display, Calendar Display, Histogram Display, Grid Display, Deleting Selected Images, Slideshow, Image Rotation, Stretch Filter, Small Face Filter, Collage, Digital Filter, HDR Filter, Frame Composite, Movie Playback/Edit (Save as Still image, Divide Movies, Adding title picture), Red-eye Edit, Resize, Cropping, Image Copy, Protect, DPOF, Start-up Screen	
Focus Modes	Autofocus, Macro, 1cm Macro, Infinity, Manual Focus, AF Area Selection (Selectable from among 25 points)	
Focus	Type	TTL contrast detection system by image sensor (multiple (9-point autofocus)/spot/automatic tracking AF changeable)
	Focus range (From lens surface)	Standard : 0.4 m - ∞(Wide-angle) 1.5 m - ∞(Telephoto)
		Macro : 0.1 m - 0.5 m 1cm Macro : 0.01 m - 0.2 m
		* It is possible to switch to Infinity, Manual Focus or AF Area Selection. * Face Detection AF is available only while the camera detects the subject's face.
Exposure Control	Focus Lock	By half-pressing the shutter release button
	Metering system	TTL image sensor metering (Multi-segment/Center-weighted/Spot)
	EV Compensation	±2 EV (can be set in 1/3 EV steps)

Face Detection	Detection of up to 32 people's faces (up to 31 face detection frames on the display), Smile Capture, Blink Detection * Face Detection AE is available only while the camera detects the subject's face.	
Pet Detection	Registering: 3, Detecting: 1	
Capture Modes	Mode dial: Auto Picture, Program, Manual Exposure, USER, Movie, Handheld Night Snap, Sport, Landscape, Portrait SCN mode: Flower, Blue Sky, Sunset, Night Scene, Night Scene Portrait, Fireworks, HDR Filter, Surf & Snow, Baby, Kids, Pet, Food, Digital SR, Stage Lighting, Text, Museum, Digital Wide, Digital Panorama, Frame Composite Green button: Green Mode, Fn Setting Movie Mode Palette: Movie, Time-Lapse Movie, High Speed Movie	
Digital Filters	B&W, Sepia, Toy Camera, Retro (Blue, Amber), Color (Red, Pink, Purple, Blue, Green, Yellow), Extract Color (Red, Green, Blue), Color Emphasis (Sky Blue, Fresh Green, Delicate Pink, Autumn Leaves), High Contrast, Soft, Fish-eye, Brightness, Miniature	
Movie	Continuous Recording Time	Movie/Time-Lapse Movie: Approx. 1 second to 25 minutes (however, until the built-in memory or SD Memory Card is full) High Speed Movie: Approx. 1 to 15 seconds (however, until the built-in memory or SD Memory Card is full)
	Still Picture Saving during Movie Recording	Up to three still pictures per each continuous movie recording, with the focus fixed at the start of recording and the number of recorded pixels fixed to 16M. The angle of view may change, depending on the number of recorded pixels for movies. The image may be distorted, depending on recording conditions.
Shutter Speed	1/1500 sec. - 1/4 sec., max. 4 sec. (Manual Exposure, Night Scene mode)	
Aperture Type	ND Filter	
Built-in Flash	Modes	Auto, Flash Off, Flash On, Auto + Red-eye, Flash On + Red-eye, Slow-speed Sync, Slow-speed Sync+Red-eye
	Flash Range	Wide-angle: Approx. 0.2 m - 11.6 m (Approx. 0.66 ft - 38 ft) (Sensitivity: in AUTO condition) Telephoto: Approx. 1.5 m - 6.1 m (Approx. 4.9 ft - 20 ft) (Sensitivity: in AUTO condition)
Drive Modes	Single-frame, Continuous Shooting, Burst Shooting (L/H), Self-timer (Approx. 10 sec., 2 sec.), Remote Control (Approx. 3-sec, 0-sec), Auto Bracketing	
Self-timer	Electronic control type, control time: Approx. 10 sec., 2 sec.	
Time Function	World Time	75 cities (28 time zones)
Power Source	Four AA (alkaline, lithium or Ni-MH) batteries, AC adapter kit (optional)	

Battery Life	Number of Recordable Images	Approx. 330 pictures (with AA alkaline batteries), approx. 500 pictures (with AA Nickel-metal hydride batteries), approx. 950 pictures (with AA Lithium batteries) * Recording capacity shows approximate number of shots recorded during CIPA-compliant testing (with display on, flash used for 50% of the shots, and 23 degrees centigrade).
	Playback Time	Approx. 420 min. (with AA alkaline batteries), approx. 500 min. (with AA Nickel-metal hydride batteries), approx. 950 min. (with AA Lithium batteries) * According to the result of in-house testing. Actual time may differ depending on usage conditions.
	Movie Recording Time	Approx. 75 min. (with AA alkaline batteries), approx. 150 min. (with AA Nickel-metal hydride batteries), approx. 280 min. (with AA Lithium batteries) * According to the result of in-house testing. Actual time may differ depending on usage conditions.
Interfaces	USB 2.0 (high-speed compatible), PC/AV terminal, HDMI terminal (Type D (Micro)), DC terminal	
Video Output	NTSC/PAL (monaural)	
Dimensions	Approx. 120 (W) × 86.5 (H) × 106.5 (D) mm (excluding operating or protruding parts)	
Weight	Approx. 507 g (excluding batteries and SD Memory Card) Approx. 599 g (including batteries and SD Memory Card)	
Accessories	Four AA Alkaline Batteries, USB Cable, Software (CD-ROM), Lens Cap, Strap, Operating Manual, Quick Guide	

WARRANTY POLICY

All PENTAX cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered, and defective parts will be replaced without cost to you within that period, provided the equipment does not show evidence of impact, sand or liquid damage, mishandling, tampering, battery or chemical corrosion, operation contrary to operating instructions, or modification by an unauthorized repair shop. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided. No refunds will be made on repairs by non-authorized PENTAX service facilities.

Procedure During 12-month Warranty Period

Any PENTAX which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your PENTAX was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your PENTAX returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees to be borne by the sender. To prove the date of your purchase when required, please keep the receipt or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their approved repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation for the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing.

- This warranty policy does not affect the customer's statutory rights.
- The local warranty policies available from PENTAX distributors in some countries can supersede this warranty policy. Therefore, we recommend that you review the warranty card supplied with your product at the time of purchase, or contact the PENTAX distributor in your country for more information and to receive a copy of the warranty policy.



The CE Mark is a Directive conformity mark of the European Union.

For customers in USA

STATEMENT OF FCC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment

generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause

harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- * Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

Pour les utilisateurs au Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FOR CALIFORNIA, U.S.A. ONLY

Perchlorate Material-special handling may apply. The lithium battery used in this camera contains perchlorate material, which may require special handling. See www.dtsc.ca.gov/hazardouswaste/perchlorate

Declaration of Conformity

According to 47CFR, Parts 2 and 15 for
Class B Personal Computers and Peripherals

We: PENTAX RICOH IMAGING AMERICAS CORPORATION

Located at: 633 17th Street, Suite 2600
Denver, Colorado 80202 U.S.A.
Phone: 800-877-0155 Fax: 303-790-1131

Declare under sole responsibility that the product identified herein complies with 47CFR Parts 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on the statistical basis as required by 47CFR §2.909.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47CFR §15.101 to §15.109.

Product Name: Digital Camera

Model Number: X-5

Contact person: Customer Service Manager

Date and Place: August, 2012, Colorado

Information for Users on Collection and Disposal of Old Equipment and Used Batteries



1. In the European Union

These symbols on the products, packaging and/or accompanying documents mean that used electrical and electronic equipment and batteries should not be mixed with general household waste.



Used electrical/electronic equipment and batteries must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of these products.



By disposing of these products correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

If a chemical symbol is added beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in the battery at a concentration above an applicable threshold specified in the Battery Directive.

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For more information about collection and recycling of used products, please contact your local authorities, your waste disposal service or the point of sale where you purchased the products.

2. In other countries outside the EU

These symbols are only valid in the European Union. If you wish to discard used products, please contact your local authorities or dealer and ask for the correct method of disposal.

For Switzerland: Used electrical/electronic equipment can be returned free of charge to the dealer, even when you don't purchase a new product. Further collection facilities are listed on the home page of www.swico.ch or www.sens.ch.

Symbols

Mode	14, 48
Mode	14, 48
button	45, 47
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(EV Compensation) button	44, 66
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[Movie] menu	54, 206
[Setting] menu	54, 207
Delete	118, 129
T Tele	64
W Wide	64
Magnify	127
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Burst Shooting	84
Self-timer	84
Remote Control	84
Auto Bracketing	85
Auto Picture	57
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Sport	68
Landscape	68
Portrait	68
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Night Scene	69
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Surf & Snow	69

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- Specifications and external dimensions are subject to change without notice.